Power BI Assignment 2

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

Answer:

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.

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

Answer:

Power BI Service's architecture consists of two parts:
- A front end
- A back end

Front End cluster

The front end also called the web front-end cluster 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 stores user identities.

Along with this, Azure Traffic Manager is used to direct user requests to the nearest data center after authentication. Once a client/user is authenticated, the Azure Content Delivery Network (CDN) distributes static Power BI content/files to users.

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

The Power BI services at the back end 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

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

   .NET is a developer platform made up of tools, programming languages, and libraries for building many different types of applications.

   ASP.NET extends the .NET developer platform with tools and libraries specifically for building web apps.

   Since the Report Viewer control was first introduced over a decade ago, it has been a key component that allowed developers to surface report content easily in their applications. But although the application development landscape has changed significantly since that time, support for the control is limited to both WinForms and WebForms. With the introduction of new, cross-platform options starting with .NET Core in 2016, we're focusing our investments on new capabilities in Microsoft Power BI to fill this need for you and your customers moving forward.

   As you move beyond the Report Viewer and transition to using the Power BI embedded capabilities, application developers can use a single set of APIs to bring both interactive and paginated reports to their modern applications, far surpassing the capabilities ever offered to date. Power BI also offers support for over 100 first- and third-party data sources, with connectivity for additional data sources added on a monthly basis to the Power BI service.As paginated reports are the same reports you use in SQL Server Reporting Services (SSRS), it's easy to migrate them to the Power BI service.

6. Compare Microsoft Excel and PowerBi Desktop on the following features:
    - Data import
    - Data transformation
    - Modeling
    - Reporting
    - Server Deployment
    - Convert Models
    - Cost

Answer:

<u>Key Differences</u>

Data Size: *One of the key differences is handling the capacity of data quantity. With Power BI, we can handle millions of rows together with fast speed, but with Excel, it is frustrating to handle large amounts of data.*

Cloud-Based Features: *Once the dashboard building completes in Power BI, we can publish the report to the end-users with Microsoft's cloud-based services. But, when it comes to Excel, we need to share the large data with the dashboard via email or any online sharing tool.*

Visualizations: *In Power BI, we have plenty of visualizations to design the dashboard, but with excel, we have only limited visualizations.*

Custom Visualizations: *Power BI allows us to import visualizations that are not there in the file by going to the marketplace, but Excel does not have that luxury.*

Comparative Table

| Item	Power BI	Excel
Availability	Power BI is a recent product, so you cannot see this with all Excel users.	Excel is everywhere and available to most people.
Learning	Power BI is not that easy. It requires considerable knowledge of Power Query and Power Pivot DAX formulas and techniques to use it.	Who does not know Excel? Excel is the universal language spoken in almost all the offices worldwide. Because Excel has been around for a long time, most users find it easy to learn.
Cost to Acquire	Power BI Desktop is free to download and use for personal use, but it takes $10 per month per user to share reports with others.	Since we already have Excel, we need to spend additional money to procure this and build dashboards.
Working Flexibility	Power BI is not flexible, especially if it just shifted from Excel to Power BI. You cannot do everything, everywhere.	Excel is flexible to use and create summary reports in simple steps and formulas.
Visuals	Power BI has a wide variety of visualizations. We can import many other visuals from the marketplace besides available built-in charts.	Excel has only a few built-in charts, and we need to work with only those charts to build dashboards.
Chart Customization	Power BI does not have the luxury of customizing a chart to the full extent. Therefore, if you are working with one set of charts, you can only work with that chart.	Excel is special. We can create another set of charts only using built-in charts. For example, a thermometer chart.
Dashboard Interactivity	Power BI not only has slicers but also has a wide variety of other slicers. Cross filters, visual level filters, report level filters, and drillthrough filters.	Excel has slicers to make the dashboards interactive with the user.
Size of the Data	Power BI can handle large amounts of data with the Power Pivot engine model. More importantly, it does not restrict to any specific versions of Excel or Office 365.	Excel struggles to handle a large amount of data and often says "Not Responding" error with a large quantity of data.

7. List 20 data sources supported by Power Bi desktop.
   Answer:

The categories of Power BI data sources supported by Power BI Desktop are as follows:

- *Power BI Data Sources: All*
- *Power BI Data Sources: File*
- *Power BI Data Sources: Database*
- *Power BI Data Sources: Power Platform*
- *Power BI Data Sources: Azure*
- *Power BI Data Sources: Online Services*
- *Power BI Data Sources: Other*
- *Power BI Data Sources: Template Apps*

Get Data

Search
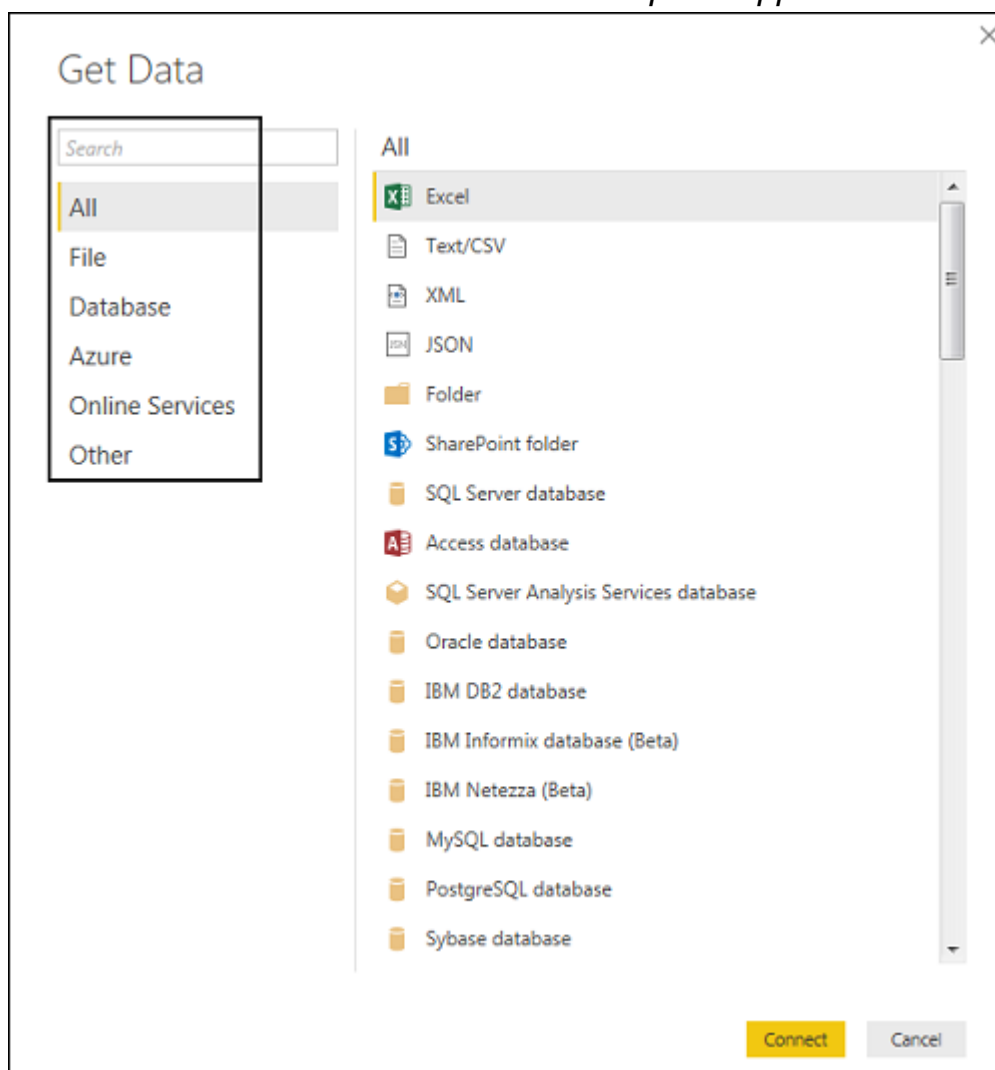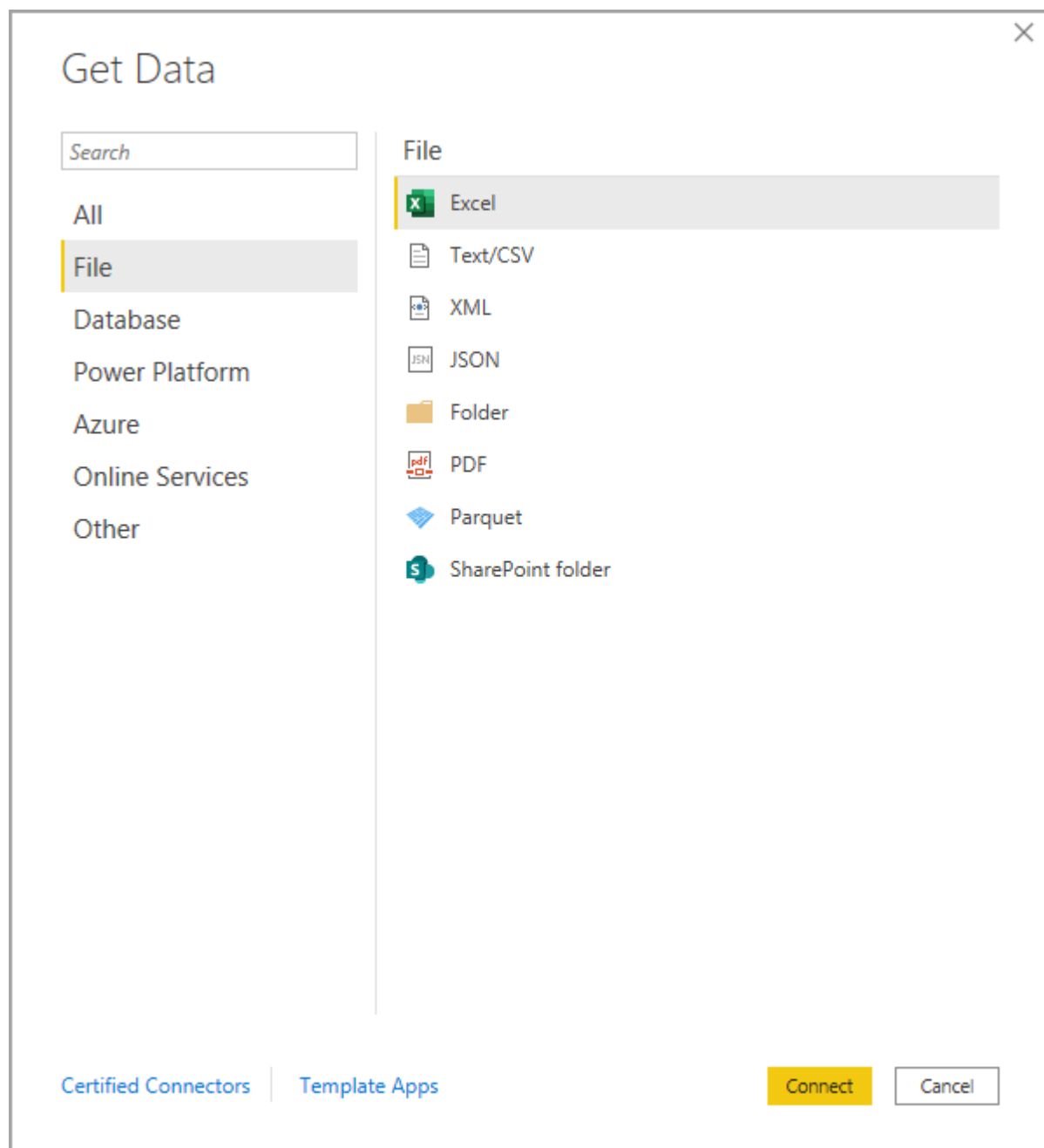
All

File

Database

Power Platform

Azure

Online Services

Other

File

Excel

Text/CSV

XML

JSON

Folder

PDF

Parquet

SharePoint folder

Certified Connectors | Template Apps

Connect   Cancel