

DP - 900

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Q1 2022



- Implement RDS in Azure, minimize maintenance | Azure SQL DB
 - query table in Azure SQL db ; which 3 are needed?
 - must have SELECT access to Products table
 - must have user in DB
 - IP must be allowed to connect to DB
 - command line tool to query Azure SQL dbs | sqlcmd
 - transactional app stores data in Azure SQL managed instance, implement read-only db replica | need generate reports w/o affecting transactional workload
 - ensure MFA when connecting to Azure SQL db | Azure AD authentication
 - benefit of hosting DB on Azure SQL Managed instances vs Azure SQL DB
 - native support for cross DB queries & transactions
 - when create Azure SQL DB, which account always connects
 - secure admin login account of logical server
 - Have Azure SQL DB can access from internet, recently changed external IP, can no longer access DB, can connect to other resources. cause of issue:
 - A DB-level firewall rule
 - supports auto DB scaling & auto failover of DB | Azure SQL DB serverless
 - by default, Azure SQL DB protected by | server-level firewall
 - relational DB must be used when | strong consistency guarantee required
 - relational DB appropriate for scenarios that involve high-value of
 - transactional writes
- Transfer Data Encryption (TDE) encrypts: | the DB to protect data at rest

Statements	Yes	No
Azure SQL Database includes a fully managed backup service.	<input checked="" type="radio"/>	<input type="radio"/>
Azure SQL Database has built-in high availability.	<input checked="" type="radio"/>	<input type="radio"/>
Azure SQL Database can use Azure Advanced Threat Protection (ATP).	<input checked="" type="radio"/>	<input type="radio"/>

Statements	Yes	No
You must apply patches to Azure SQL databases regularly.	<input type="radio"/>	<input checked="" type="checkbox"/>
You need a Microsoft 365 subscription to create an Azure SQL database.	<input type="radio"/>	<input checked="" type="checkbox"/>
You can use existing Microsoft SQL Server licenses to reduce the cost of Azure SQL databases.	<input checked="" type="radio"/>	<input type="radio"/>

Components	Answer Area
Authentication	Prevent access to an Azure SQL database from another network.
Firewall	Support Azure Active Directory (Azure AD) sign-ins to an Azure SQL database.
Encryption	Ensure that sensitive data never appears as plain text in an Azure SQL database.

- reporting solution w/ paginated reports, reports query dimensional model in data warehouse, which processing does reporting solution use
 - Online Analytical Processing (OLAP)
- QA app reads data from data warehouse. Which processing does the App use | OLAP - for BIE amount of data
- e-commerce app reads & writes data to Azure SQL DB, which processing does App use | Online transaction Processing (OLTP)
- 3 characteristics of OLTP workload
 - normalized data
 - schema on write
 - heavy writes, moderate reads

} OLAP is opposite
- in a data warehousing workload, data: | from multi sources combined in single location
- 2 benefits of PaaS relational DBs in Azure, ie Azure SQL:
 - reduced admin effort
 - access to latest features
- Deploying a SaaS app that needs a RDB for OLTP, which Azure service to use to support App? | Azure SQL DB

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure provide built-in high availability.	<input type="radio"/>	<input checked="" type="radio"/>
Platform as a service (PaaS) database offerings in Azure provide configurable scaling options.	<input type="radio"/>	<input checked="" type="radio"/>
Platform as a service (PaaS) database offerings in Azure reduce the administrative overhead for managing hardware.	<input type="radio"/>	<input checked="" type="radio"/>

Statements	Yes	No
If you have a platform as a service (PaaS) database in Azure, you are responsible for applying operating system updates.	<input type="radio"/>	<input checked="" type="radio"/>
If you have a platform as a service (PaaS) database in Azure, backups are performed automatically.	<input checked="" type="radio"/>	<input type="radio"/>
If you have a platform as a service (PaaS) database in Azure, you are responsible for upgrading the database engine.	<input type="radio"/>	<input checked="" type="radio"/>

Statements	Yes	No
Platform as a service (PaaS) database offerings in Azure require less setup and configuration effort than infrastructure as a service (IaaS) database offerings.	<input checked="" type="radio"/>	<input type="radio"/>
Platform as a service (PaaS) database offerings in Azure provide administrators with the ability to control and update the operating system version.	<input type="radio"/>	<input checked="" type="radio"/>
All platform as a service (PaaS) database offerings in Azure can be paused to reduce costs.	<input type="radio"/>	<input checked="" type="radio"/>

- Two uses of data visualization:
 - represents trends & patterns over time
 - communicate significance of data

Visualizations	Answer Area
Key influencer	Visualization
Scatter	Visualization
Treemap	Visualization

Statements	Yes	No
Azure Databricks can consume data from Azure SQL Database	<input checked="" type="checkbox"/>	<input type="radio"/>
Azure Databricks can consume data from Azure Event Hubs	<input checked="" type="checkbox"/>	<input type="radio"/>
Azure Databricks can consume data from Azure Cosmos DB	<input checked="" type="checkbox"/>	<input type="radio"/>

- when to use Azure Resource Mgr template:
 - to automate creation of interdependent group of Azure resources in a repeatable way
- Which 2 levels can you set throughput for Cosmos DB account?
 - Database
 - Container
- what is a benefit of the Azure Cosmos DB table API vs Azure table storage? | supports a multi-master model
- Cosmos DB account that uses Core (SQL) API. which 2 settings can you config at container level:
 - throughput
 - partition key
- When provisioning cosmos DB acc, which feature provides redundancy within an Azure region | Availability Zones
- At which level in Cosmos DB can you config multiple write regions & read regions | Account
- Can query a graph DB in Cosmos DB:
 - As a JSON doc by using SQL-like language

Statements	Yes	No	Statements	Yes	No
The Azure Cosmos DB API is configured separately for each database in an Azure Cosmos DB account.	<input type="radio"/>	<input checked="" type="checkbox"/>	Azure Table storage supports multiple read replicas.	<input checked="" type="checkbox"/>	<input type="radio"/>
Partition keys are used in Azure Cosmos DB to optimize queries.	<input checked="" type="checkbox"/>	<input type="radio"/>	Azure Table storage supports multiple write regions.	<input type="radio"/>	<input checked="" type="checkbox"/>
Items contained in the same Azure Cosmos DB logical partition can have different partition keys.	<input type="radio"/>	<input checked="" type="checkbox"/>	The Azure Cosmos DB Table API supports multiple read replicas.	<input checked="" type="checkbox"/>	<input type="radio"/>
			The Azure Cosmos DB Table API supports multiple write regions.	<input checked="" type="checkbox"/>	<input type="radio"/>

Services	Answer Area
Azure Blob storage	Service
Azure Cosmos DB	Service
Azure Files	
Azure Table storage	

- Which 2 can be used to provision Apache Spark Clusters:
 - HD insight
 - Databricks
 - 2 characteristics of real-time data processing:
 - Low latency expected
 - Data is processed as it is created
 - Example of a streaming workload:
 - sending telemetry data from edge devices
 - Which workload to gather real-time telemetry data from mobile app:
 - streaming
 - Batch Workloads | collect data & process data when condition is met
- | Statements | Yes | No |
|--|-------------------------------------|-----------------------|
| Analyzing web traffic from the past year | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Classifying images that were uploaded last month | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Tracking how many people are currently using a website | <input checked="" type="checkbox"/> | <input type="radio"/> |
-
- | Workload Types | Answer Area |
|----------------|--|
| Batch | Data for a product catalog will be loaded every 12 hours to a data warehouse. |
| Streaming | Data for online purchases will be loaded to a data warehouse as the purchases occur. |
| Workload type | Updates to inventory data will be loaded to a data warehouse every 1,000 transactions. |
- In batch processing:
- latency is expected
- | Statements | Yes | No |
|---|-------------------------------------|-----------------------|
| Batch processing can output data to a file store | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Batch processing can output data to a relational database | <input checked="" type="checkbox"/> | <input type="radio"/> |
| Batch processing can output data to a NoSQL database | <input checked="" type="checkbox"/> | <input type="radio"/> |

You have the following JSON document.

```

root object
nested object
nested array
{
  "customer": {
    "first name": "Ben",
    "last name": "Smith",
    "address": {
      "line 1": "161 Azure Ln",
      "line 2": "Palo Alto",
      "ZIP code": "54762"
    },
    "social media": [
      {
        "service": "twitter",
        "handle": "@bensmith"
      },
      {
        "service": "linkedin",
        "handle": "bensmith"
      }
    ],
    "phone numbers": [
      {
        "type": "mobile",
        "number": "555-555-555"
      }
    ]
  }
}
  
```

- All that stores data in shared folder on Win server, need to move shared folder to Azure Storage, which service with Azure Storage account to use | FILE
- App that runs on Win & requires access to mapped drive, which Azure service to use | Azure Files
- Storage solution supports RBAC at file & folder level | Azure Data Lake Storage

- Config Azure Storage Acc to support both security at folder level & atomic directory manipulation | enable hierarchical namespace
- When using Cosmos DB Gremlin API, container resource type is projected as a | GRAPH

Data Store Types	Answer Area
Graph	Application users and their default language
Object	Medical images and their associated metadata
Key/value	Employee data that shows the relationships between employees
Data Types	Answer Area
Image files	Data type: Azure Blob storage
Key/value pairs	Data type: Azure Cosmos DB Gremlin API
Relationships between employees	Data type: Azure Table storage

APIs	Answer Area
Cassandra API	Graph data
Gremlin API	JSON documents
MongoDB API	Key/value data
Table API	

- Required for ELT (extract, load, transform) process:
 - target data store powerful enough to transform the data
- ETL (extract, transform, load) process requires:
 - data that is fully processed before being loaded to target data store

Locations	Answer Area	Statements	Yes	No
An in-memory data integration tool	Extract: Location	Azure Data Studio can be used to query an Azure SQL database from a device that runs macOS.	<input checked="" type="checkbox"/>	<input type="radio"/>
The CRM system	Load: Location	Microsoft SQL Server Management Studio (SSMS) enables users to create and use SQL notebooks.	<input type="radio"/>	<input checked="" type="checkbox"/>
The data warehouse	Transform: Location	Azure Data Studio can be used to restore a database.	<input checked="" type="checkbox"/>	<input type="radio"/>

- Design & model NB by using graphical tool that supports project-oriented offline DB development, use: | Microsoft SQL Server Data Tools (SSDT)
- Writing set of SQL queries that admin will use to troubleshoot Azure SQL DB, need to embed docs & query results into SQL notebook, use: | Azure Data Studio
- Set of Devs have computers that run on Win 10 & Ubuntu, need to connect and query Azure SQL DB from their computer. The Devs require code assistance features like Intellisense, which can be used:
 - Azure Data Studio
- Not a tool to access DB? | storage explorer

Tools	Answer Area
Azure Data Studio	Tool
Microsoft SQL Server Data Tools (SSDT)	Tool
Microsoft SQL Server Management Studio (SSMS)	Tool
Microsoft Visual Studio Code	Tool

Statements	Yes	No
You can use Azure Data Studio to query a Microsoft SQL Server big data cluster.	<input checked="" type="checkbox"/>	<input type="radio"/>
You can use Microsoft SQL Server Management Studio (SSMS) to query an Azure Synapse Analytics data warehouse.	<input checked="" type="checkbox"/>	<input type="radio"/>
You can use MySQL Workbench to query Azure Database for MariaDB databases.	<input checked="" type="checkbox"/>	<input type="radio"/>

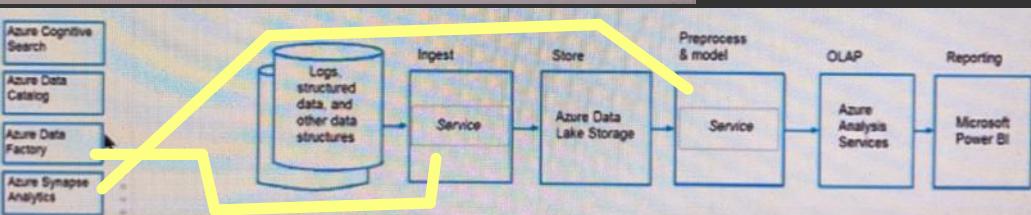
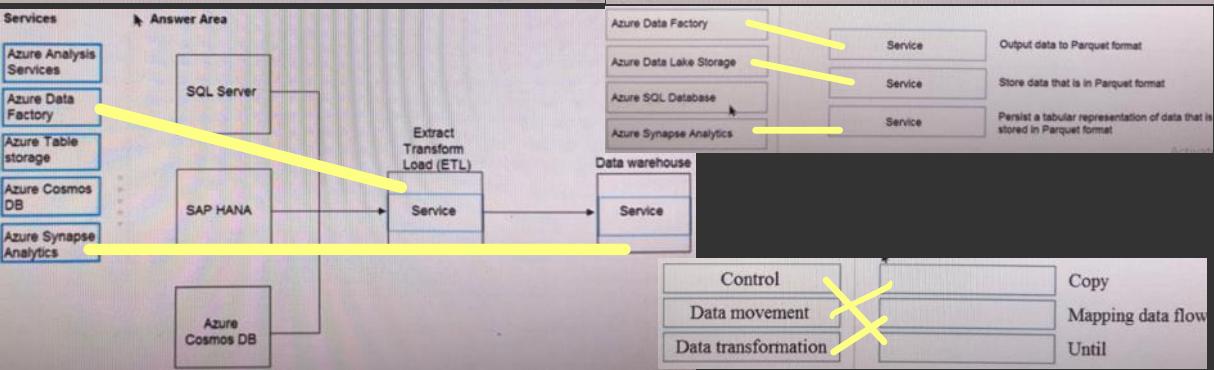
- Azure Data Factory component provides compute environment:
 - integration runtime

• Azure Data Factory component initiates execution of pipeline:
 • a trigger

• Azure DF, you can use _____ to orchestrate pipeline activities that depend on the output of other pipeline activities:
 • a control flow

Statements	Yes	No
Azure Databricks is an Apache Spark-based collaborative analytics platform.	<input checked="" type="checkbox"/>	<input type="radio"/>
Azure Analysis Services is used for transactional workloads.	<input type="radio"/>	<input checked="" type="checkbox"/>
Azure Data Factory orchestrates data integration workflows.	<input checked="" type="checkbox"/>	<input type="radio"/>

Statements	Yes	No
A pipeline is a representation of a data structure within Azure Data Factory	<input checked="" type="checkbox"/>	<input type="radio"/>
Azure Data Factory pipelines can execute other pipelines	<input checked="" type="checkbox"/>	<input type="radio"/>
A processing step within an Azure Data Factory pipeline is an activity	<input checked="" type="checkbox"/>	<input type="radio"/>



Dataset	Component	A representation of data structures within data stores
Linked service	Component	The information used to connect to external resources
Mapping data flow	Component	A logical grouping of activities that performs a unit of work and can be scheduled
Pipeline	Component	

You need to recommend a non-relational data store that is optimized for storing and retrieving text files, videos, audio streams, and virtual disk images. The data store must store data, some metadata, and a unique ID for each file.
Which type of data store should you recommend?

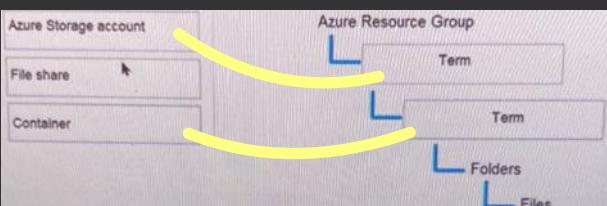
Which type of non-relational data store supports a flexible schema, stores data as JSON files, and stores all the data for an entity in the same document?

- Document

Your company is designing a data store that will contain student data. The data has the following format.

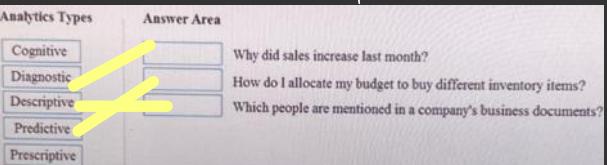
StudentNumber	StudentInformation
7634634	First name: Ben Last: Smith Preferred Name: Benjamin
7634634	First Name: Dominik Last Name: Paiva Email Address: dpaiha@contoso.com MCP ID: 931817
7634636	First Name: Reshma Last Name: Patel Phone number: 514-555-1101
7634637	First Name: Yun-Feng Last Name: Peng

• USE COLUMNAR Data store



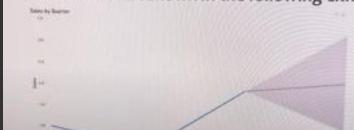
A bar chart showing year-to-date sales by region is an example of which type of analytics?

- Diagnostic
- Transcribing audio files is an example of | cognitive analytics
- Descriptive analytics tells you | what occurred in the past
- Visualization that shows current student enrollment vs maximum in:
- Descriptive Analytics



Your company recently reported sales from the third quarter.

You have the chart shown in the following exhibit.



Which type of analysis is shown for the fourth quarter?

- Predictive

Object

Your company is designing a database that will contain session data for a website. The data will include notifications, personalization attributes, and products that are added to a shopping cart. Which type of data store will provide the lowest latency to retrieve the data?

- Key / value

Your company is designing a data store for internet-connected temperature sensors. The collected data will be used to analyze temperature trends.
Which type of data store should you use?

Your company needs to design a database that shows how changes in network traffic in one area of a network affect network traffic in other areas of the network.
Which type of data store should you use?

Columnar

Time Series

GRAPH

• A key / value data store IS optimized for:
• simple lookups

Statements	Yes	No
When ingesting data from Azure Data Lake Storage across Azure regions, you will incur costs for bandwidth.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
You can use blob, table, and file storage in the same Azure Storage account.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
You implement Azure Data Lake Storage by creating an Azure Storage account.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

I have a car showroom and I am thinking to open a new branch of my showroom. I want to find out where I should open by new showroom based on sales data. Which analytics will tell me that?

Descriptive

You have a SQL pool in Azure Synapse Analytics that is only used actively every night for eight hours. You need to minimize the cost of the SQL pool during idle times. The solution must ensure that the data remains intact. What should you do on the SQL pool?

- Pause the pool

Statements	Yes	No
Azure Synapse Analytics scales storage and compute independently	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Azure Synapse Analytics can be paused to reduce compute costs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
An Azure Synapse Analytics data warehouse has a fixed storage capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- The massively parallel processing (MPP) engine of Azure Synapse Analytics
- Distribute processing across compute nodes

Which statement is an example of Data Definition Language (DDL)?

• CREATE

You have an inventory management database that contains the following table.

ProductName	Quantity
Product1	100
Product2	129
Product3	176

Which statement should you use in a SQL query to change the inventory quantity of Product1 to 270?

• UPDATE

A clustered index
A FileTable
A foreign key
A stored procedure

Index
View
Table

A database object that holds data
A database object whose content is defined by a query
A database object that helps improve the speed of data retrieval

You have a table named Sales that contains the following data.

SalesDate	SalesAmount	ProductID
4-Apr-20	\$2,000	1
5-Apr-20	\$40	2
5-Apr-20	\$2,300	1
6-Apr-20	\$40	3
6-Apr-20	\$200	4

You need to query the table to return the average sales amount per day. The output must produce the following results.

SalesDate	AVG(SalesAmount)
4-Apr-20	\$2,000
5-Apr-20	\$1,170
6-Apr-20	\$120

complete the Query :

Values Answer Area

CREATE GROUP BY SELECT

FROM Sales

ORDER BY SalesDate

Value SalesDate, AVG(SalesAmount)

Value SalesDate

You need to develop a solution to provide data to executives. The solution must provide an interactive graphical interface, depict various key performance indicators, and support data exploration by using drill down.

What should you use in Microsoft Power BI?

• A REPORT

A Microsoft Power BI

dashboard
interactive report
paginated report
subscription

enables users to create highly formatted, fixed-layout documents optimized for printing and archiving.

Which of the following is an example of Data Manipulation Language (DML)?

• INSERT

You have designed a SQL query that combines customer data and order data. The query includes calculated columns. You need to persist the SQL query so that other users can use the query. What should you create?

} a view

Relational data uses collections
columns
keys
partitions

A heap
A stored procedure
A view
An index

You have the following SQL query

INSERT INTO dbo.Products (ProductID, ProductName, Price, ProductDescription) VALUES (1, 'Clamp', 12.48, 'Workbench clamp');

What are dbo.Products and ProductName? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area:

Dbo.Products:

A column
A database
A table
An index

ProductName:

A column
A database
A table
An index

What should you use to build a Microsoft Power BI paginated report?

• Power BI report Builder

Which two activities can be performed entirely by using the Microsoft Power BI service? Each correct answer presents a complete solution. (Choose two.)

NOTE: Each correct selection is worth one point.

- A. report and dashboard creation
- B. data modeling
- C. report sharing and distribution
- D. data acquisition and preparation

Which three objects can be added to a Microsoft Power BI dashboard? Each correct answer presents a complete solution. (Choose three.)

NOTE: Each correct selection is worth one point.

- A. a report page
- B. a Microsoft PowerPoint slide
- C. a visualization from a report
- D. a dataflow
- E. a text box

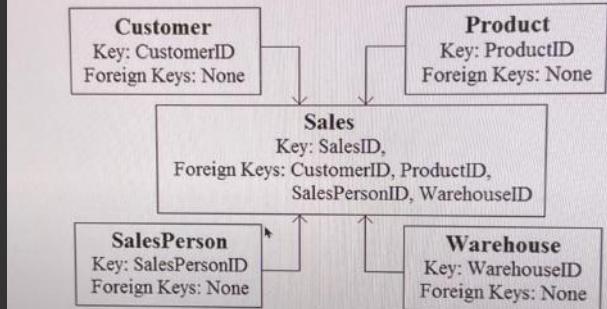
Statements	Yes	No	
A Microsoft Power BI dashboard is associated with a single workspace.	<input checked="" type="radio"/>	<input type="radio"/>	
A Microsoft Power BI dashboard can only display visualizations from a single dataset.	<input type="radio"/>	<input checked="" type="radio"/>	
A Microsoft Power BI dashboard can display visualizations from a Microsoft Excel workbook.	<input checked="" type="radio"/>	<input type="radio"/>	

Which of the following is an Azure storage solution that provides native support for POSIX-compliant access control lists?

- Azure Data Lake Storage

Statements	Yes	No	
You need to use Transact-SQL to query files in Azure Data Lake Storage from an Azure Synapse Analytics data warehouse.	<input checked="" type="radio"/>	<input type="radio"/>	
What should you use to query the files?			
• Poly Base			

You are reviewing the data model shown in the following exhibit.



Use the drop-down menus to select the answer choice that completes each statement based on the information presented in the graphic.

NOTE: Each correct selection is worth one point

Answer Area:

The data model is a [answer choice].

transactional model
star schema
snowflake schema

Customer is a [answer choice] table.

fact
dimension
bridge