1. Your transactional database requirements exceed the maximum capacity of a single Azure SQL database in the General Purpose service tier. What should you implement to resolve the capacity issue? Select only one answer.

elastic pools

read scale-out

sharding

The correct answer is:

**Sharding**

**Explanation:** Sharding is a technique to split data across multiple databases, effectively distributing the data horizontally. This allows you to overcome the capacity limitations of a single database by spreading the data across several smaller databases. Each shard is an independent database, which helps in handling large data volumes and transactional loads beyond what a single Azure SQL database can handle.

* **Elastic pools** are useful for managing multiple databases with varying and unpredictable usage patterns by sharing resources among them but do not address single-database capacity limits.
* **Read scale-out** is primarily for improving read performance by distributing read-only queries to replica databases, which also does not address capacity limits for transactional loads.

1. You are designing an application that requires table storage. You are evaluating whether to use Azure Table storage or Azure Cosmos DB for Table. Which requirement requires the use of Azure Cosmos DB for Table instead of Azure Table storage? Select only one answer.

A schemeless design

An SLA of 99.99%

Consumption-based pricing model

Multiple secondary replicas

The correct answer is:

**An SLA of 99.99%**

**Explanation:** Azure Cosmos DB for Table provides a guaranteed SLA of 99.99% for availability, throughput, latency, and consistency. Azure Table Storage, on the other hand, does not provide the same level of SLAs, especially for latency and consistency guarantees. If you need a high SLA across these metrics, Cosmos DB is the preferred choice.

* **A schemeless design** is supported by both Azure Table Storage and Cosmos DB for Table, as both are NoSQL solutions.
* **Consumption-based pricing model** is available in both services.
* **Multiple secondary replicas** are primarily relevant in Cosmos DB for high availability across regions, but this is not a unique differentiator over Azure Table Storage in the context of this question.

1. You need to recommend an Azure SQL Database service tier that supports a 40-TB database. The solution must provide the fastest failover time. Which service tier should you recommend? Select only one answer.

Business critical

General Purpose

Hyperscale

The correct answer is:

**Hyperscale**

**Explanation:** The **Hyperscale** service tier in Azure SQL Database is designed to support very large databases, with storage capacity up to 100 TB, making it suitable for a 40-TB database. Hyperscale also provides fast failover times by leveraging a highly scalable architecture that separates compute and storage.

* **Business Critical** and **General Purpose** tiers do not support databases of this size (40 TB) and are intended for smaller databases with different performance and resilience features.

1. You need to ensure credit card numbers in an Azure SQL database are protected while data is being processed. What should you use? Select only one answer.

Dynamic data masking

SSL

TLS

Transparent data encryption (TDE)

The correct answer is:

**Dynamic data masking**

**Explanation:** **Dynamic Data Masking (DDM)** allows you to mask sensitive data, such as credit card numbers, at the database level. This ensures that while data is being processed and queried, sensitive information remains protected by masking it for unauthorized users. DDM dynamically hides the data without changing it in the database, making it suitable for controlling visibility during data processing.

* **SSL** and **TLS** provide encryption for data in transit, but they do not mask data within the database itself while it is being processed.
* **Transparent Data Encryption (TDE)** encrypts the data at rest, which protects data storage but does not mask data while it is being queried or processed in the database.

1. You plan to implement Azure Files to host a transaction-heavy workload. You need to select the optimal tier for the workload to meet the following requirements: Storage must run on solid-state drives (SSDs). Costs must be minimized. Which tier should you select? Select only one answer.

Cool

Hot

Premium

Transaction optimized

The correct answer is:

**Premium**

**Explanation:** The **Premium** tier for Azure Files is optimized for high-performance, transaction-heavy workloads and is backed by solid-state drives (SSDs), ensuring low latency and high throughput. This tier is designed specifically for workloads that require fast, consistent performance. Although it is more costly than other tiers, it provides the necessary SSD-backed storage needed for transaction-heavy applications.

* **Cool** and **Hot** tiers use HDD-based storage and are intended for less performance-intensive use cases.
* **Transaction optimized** is also HDD-backed and not ideal for the high-performance demands of transaction-heavy workloads that need SSD speed.

1. You are designing an application that will store data in Azure Storage. You need to recommend a solution to ensure that data in the storage account is encrypted by using customer-managed keys. What should you include in the recommendation? Select only one answer.

Azure Key Vault

Azure Private Link

Service endpoint

Shared access signature

The correct answer is:

**Azure Key Vault**

**Explanation:** **Azure Key Vault** allows you to manage customer-managed keys (CMKs) for Azure Storage encryption. By integrating Azure Key Vault with Azure Storage, you can use your own encryption keys, giving you full control over key management, rotation, and auditing. This setup ensures that data in the storage account is encrypted with customer-managed keys.

* **Azure Private Link** and **Service endpoint** are network security features and do not relate directly to encryption.
* **Shared access signature (SAS)** provides secure access to storage resources but does not handle encryption or key management.

1. You are developing a web application that will be hosted on an Azure virtual machine. During development you require up to 6,000 IOPS and a throughput of up to 750 MB/s. You need to provision the data disk for the development server. The solution must minimize costs. Which data disk type should you use? Select only one answer.

Premium SSD

Standard HDD

Standard SSD

Ultra

The correct answer is:

**Premium SSD**

**Explanation:** **Premium SSD** disks on Azure provide the necessary performance for up to 6,000 IOPS and a throughput of up to 750 MB/s, which meets the requirements for your development server. While **Ultra** disks provide even higher performance, they are typically more costly and may exceed the needs for a development environment. **Standard SSD** and **Standard HDD** do not provide the required IOPS and throughput.

Using **Premium SSD** balances performance and cost effectively for your development workload.

1. You need to recommend an Azure Blob storage access tier for infrequently accessed data. The solution must meet the following requirements: Ensure the data is available for immediate access Minimizes the cost to store the data Which access tier should you recommend? Select only one answer.

Archive

Cool

Cold

Hot

The correct answer is:

**Cool**

**Explanation:** The **Cool** access tier in Azure Blob Storage is designed for infrequently accessed data that needs to be available immediately. This tier has lower storage costs than the **Hot** tier, though it incurs slightly higher access costs. The **Cool** tier is optimal when data is accessed less frequently but must still be readily available.

* **Archive** is for long-term storage of rarely accessed data and requires time to rehydrate before access, which does not meet the "immediate access" requirement.
* **Hot** is suited for frequently accessed data but is more costly for storage.
* **Cold** is not an Azure Blob Storage access tier (the valid options are Hot, Cool, and Archive).

1. You are designing a high-availability solution for an Azure SQL deployment. You need to recommend an Azure SQL deployment option that minimizes how long it takes to perform a database backup. Which deployment option should you recommend? Select only one answer. Business Critical

General Purpose

Hyperscale

Serverless

The correct answer is:

**Hyperscale**

**Explanation:** The **Hyperscale** service tier in Azure SQL Database is designed to support large databases and provides a highly efficient backup process. Unlike other tiers, Hyperscale uses a unique architecture that includes instantaneous backups by leveraging storage snapshots. This minimizes backup time, even for large databases, by avoiding the traditional full backup process.

* **Business Critical** and **General Purpose** tiers use traditional backup methods that may take longer, especially with larger databases.
* **Serverless** is designed to optimize cost for infrequently used databases, but it does not provide the backup performance advantages of the Hyperscale tier.

1. You are planning the high availability for Azure virtual machines. Which scenario requires the use of an availability zone? Select only one answer.

You need redundance in the event a hardware component fails. A failure of a datacenter is acceptable.

You need redundancy in the event a power outage affects a physical location. A regional failure is acceptable.

You need the ability failover virtual machine between regions.

The correct answer is:

**You need redundancy in the event a power outage affects a physical location. A regional failure is acceptable.**

**Explanation:** **Availability Zones** in Azure provide high availability by ensuring redundancy across multiple physical locations within a single region. Each zone is an isolated location with independent power, cooling, and networking, so if one zone goes down due to a power outage or other localized issue, services can failover to another zone within the same region.

* The scenario with **hardware component failure** would typically use an **Availability Set** within a single datacenter, as it provides protection against hardware failures.
* The scenario with **failover between regions** would require **Geo-Redundancy** or **Paired Regions** rather than Availability Zones, as Availability Zones only provide redundancy within a single region.

1. You have a Microsoft SQL Server instance that runs in an on-premises datacenter. You plan to deploy a SQL Server instance to an Azure virtual machine and implement an Always On availability group that will contain databases hosted on both SQL Server instances. You need to recommend a connectivity method between the two instances. The solution must minimize the latency of the replication traffic. Which connectivity method should you recommend?

Select only one answer.

a Point-to-Site (P2S) VPN connection

a Site-to-Site (S2S) VPN connection

an ExpressRoute circuit

The correct answer is:

**an ExpressRoute circuit**

**Explanation:** **ExpressRoute** provides a private, dedicated connection between your on-premises network and Azure. It is designed for scenarios where low latency and high throughput are required, such as in an Always On availability group where you need fast and reliable replication traffic between SQL Server instances. ExpressRoute bypasses the public internet, offering a more stable and faster connection than VPN-based methods.

* **Point-to-Site (P2S)** VPN is a connection for individual client machines and typically used for remote access, which would not be ideal for high-availability scenarios involving SQL Server.
* **Site-to-Site (S2S)** VPN provides a secure connection between your on-premises network and Azure, but the connection is still over the public internet, which can introduce more latency compared to ExpressRoute.

1. Your company plans to deploy a stateful application named App1 to Azure Container Instances. App1 requires two containers that must be deployed to the same container group. You need to implement a persistent storage solution that is accessible simultaneously from both containers. What should you use? Select only one answer.

Azure Blobs

Azure Disk

Azure Files

Azure Table

The correct answer is:

**Azure Files**

**Explanation:** **Azure Files** provides a fully managed file share in the cloud that can be mounted and accessed by multiple containers simultaneously, making it the ideal solution for shared storage between containers within the same Azure Container Instance (ACI) container group. Azure Files supports file system semantics, allowing both containers to read and write to the same storage location.

* **Azure Blobs** are object storage, not designed for file system access, and cannot be mounted as a shared volume between containers.
* **Azure Disk** is designed for persistent storage attached to a single virtual machine or container, and cannot be shared between multiple containers within an ACI container group.
* **Azure Table** is a NoSQL key-value store, not suitable for file storage needs.

1. Your company plans to migrate an on-premises PHP web app named WebApp1 to Azure. You need to recommend which Azure service to use to run App1. The solution must minimize administrative effort. Which service should you recommend? Select only one answer.

Azure App Service

Azure Kubernetes

Azure Logic Apps

Azure virtual machines

The correct answer is:

**Azure App Service**

**Explanation:** **Azure App Service** is a fully managed platform-as-a-service (PaaS) offering that simplifies the deployment and management of web applications, including PHP apps. It abstracts away much of the administrative overhead, such as managing virtual machines, patching, and scaling, allowing developers to focus on their application instead of infrastructure. It is the best choice for running WebApp1 with minimal administrative effort.

* **Azure Kubernetes** is ideal for containerized applications and microservices, but it requires more management and is generally suited for more complex scenarios with container orchestration.
* **Azure Logic Apps** is a service for automating workflows, not for running web applications.
* **Azure Virtual Machines** provide Infrastructure-as-a-Service (IaaS) and would require more management effort, such as setting up and maintaining the server, which adds more administrative overhead compared to App Service.

1. You are authoring a custom code that will process HTTP requests to perform basic calculations on geographic coordinates. Requests will be infrequent. You need to recommend a compute solution to host the custom code. Your solution must minimize the implementation effort and compute cost. Which compute solution should you recommend? Select only one answer.

Azure API Management

Azure Batch

Azure Logic Apps

Azure Functions

The correct answer is:

**Azure Functions**

**Explanation:** **Azure Functions** is an ideal solution for this scenario because it provides a serverless compute model, where you pay only for the actual execution time of your code, minimizing both implementation effort and compute cost. Since the HTTP requests will be infrequent, Azure Functions allows you to run the custom code on-demand without having to manage infrastructure. It supports HTTP triggers and can easily handle basic calculation tasks.

* **Azure API Management** is a service for managing, securing, and monitoring APIs but does not directly handle the compute aspect of processing requests.
* **Azure Batch** is suited for large-scale parallel and high-performance computing tasks and would be overkill for infrequent basic calculations.
* **Azure Logic Apps** is used for automating workflows and integrating different services, but it’s not ideal for custom code execution like in this scenario.

1. Your company purchases an Azure subscription and plans to migrate several on-premises virtual machines to Azure. You need to design the infrastructure required for the Azure virtual machines solution. What should you first consider in the design? Select only one answer.

the names of the virtual machines

the number of Azure Storage accounts

the settings of the Azure virtual networks

the size of the virtual machines

The correct answer is:

**the settings of the Azure virtual networks**

**Explanation:** When designing infrastructure for Azure virtual machines, the first key consideration should be **the settings of the Azure virtual networks**. Proper network configuration is crucial to ensure that the virtual machines can communicate with each other, your on-premises network, and other resources in Azure. This includes setting up the virtual network, subnets, network security groups, and any necessary peering or VPN connections.

* **The names of the virtual machines** are important but can be configured later in the setup process.
* **The number of Azure Storage accounts** is important, but it is secondary to setting up networking and connectivity.
* **The size of the virtual machines** is also important, but it comes after configuring the network to ensure that the virtual machines are correctly integrated into your infrastructure.

1. You are designing a music-sharing application in Azure. You need to recommend an application design that meets the following requirements: The application must notify users when new music is uploaded to Azure. Users must be able to decide when they want to access new music. What should you recommend using to route the required information for new music? Select only one answer.

Azure Event Grid

Azure Event Hubs

Azure Monitor

Azure Queue Storage

The correct answer is:

**Azure Event Grid**

**Explanation:** **Azure Event Grid** is the best choice for routing events such as new music uploads in real-time. It is a fully managed event routing service that allows you to easily send notifications to users or trigger other services when specific events occur, like the uploading of new music. Event Grid is designed to deliver events to multiple subscribers and can integrate with other Azure services like Azure Functions or Azure Logic Apps to notify users or trigger actions when new content is uploaded.

* **Azure Event Hubs** is designed for ingesting large volumes of data in real-time, primarily for analytics scenarios, and is not ideal for sending notifications to users when new content is uploaded.
* **Azure Monitor** focuses on monitoring and logging rather than routing events to trigger notifications.
* **Azure Queue Storage** is more appropriate for storing messages and implementing task queues, but it is not designed for routing events like Event Grid.

1. Your company has a production line that uses several hundred sensors. You are designing a solution that will ingest the sensor data by using Azure Event Hubs, and then use Azure Stream Analytics to analyze it for anomalies. You need to recommend a location to store the data ingested by Azure Event Hubs. The solution must minimize the cost. Which location should you recommend? Select only one answer.

Azure Blob storage

Azure Cosmos DB

Power BI

Azure SQL Database

The correct answer is:

**Azure Blob storage**

**Explanation:** **Azure Blob Storage** is the most cost-effective solution for storing large volumes of data, such as sensor data ingested by Azure Event Hubs. It is optimized for unstructured data and provides a low-cost, scalable, and highly durable storage solution. Blob storage is ideal for storing raw data that will be processed and analyzed later, such as in your case with Azure Stream Analytics.

* **Azure Cosmos DB** is a globally distributed NoSQL database that provides low-latency access but is more expensive than Blob Storage and may not be necessary for storing large volumes of raw data.
* **Power BI** is primarily used for visualization and reporting, not for storing raw data.
* **Azure SQL Database** is a relational database service and would be more costly for storing large volumes of raw sensor data compared to Blob Storage. It is better suited for structured data that requires complex queries.

1. You are developing an application that will use a message-based delivery system. The solution must be able to store over 90-GB of data and provide an audit trail of all messages. Which messaging solution should you use? Select only one answer.

Azure Functions

Azure Queue Storage

Azure Service Bus queues

Azure Service Bus topics

The correct answer is:

**Azure Service Bus queues**

**Explanation:** **Azure Service Bus queues** are the best choice for message-based delivery systems that require the ability to store large amounts of data and maintain an audit trail of all messages. Service Bus provides reliable message delivery and allows you to store up to 80 GB per queue in the Standard tier (or higher with Premium tier) and also provides features like message logging, dead-letter queues, and message tracking, which can help in maintaining an audit trail.

* **Azure Functions** is a serverless compute service, not specifically a messaging solution. While it can process messages, it doesn't provide storage or auditing features directly.
* **Azure Queue Storage** is a simple and cost-effective storage solution for messages, but it lacks the advanced features of Service Bus, such as rich auditing and reliable messaging with transactional support.
* **Azure Service Bus topics** are used for publish-subscribe messaging patterns, and although they provide similar features to Service Bus queues, they are better suited for scenarios where multiple consumers need to process messages from the same message stream. For a straightforward message delivery system, **queues** would be more appropriate.

1. You are developing an application that will use a message-based delivery system. You have the following requirements: Support for multiple destinations that receive their own copy of each message in a queue-like manner. Stores up to 60-GB of messages. Which messaging solution should you use? Select only one answer.

Azure Functions

Azure Queue Storage

Azure Service Bus queues

Azure Service Bus queues with topics

The correct answer is:

**Azure Service Bus queues with topics**

**Explanation:** **Azure Service Bus queues with topics** support a **publish-subscribe** pattern, where multiple destinations (subscribers) can receive their own copy of each message. This is ideal for scenarios where the same message needs to be delivered to multiple consumers, with each consumer getting an independent copy of the message.

* **Azure Functions** is a compute service and not a messaging solution.
* **Azure Queue Storage** is a simple, cost-effective solution but does not support the publish-subscribe pattern where multiple destinations receive their own copies of the messages.
* **Azure Service Bus queues** alone are designed for point-to-point messaging (one consumer per message), not for delivering the same message to multiple destinations.

Therefore, **Azure Service Bus queues with topics** is the most suitable solution for both supporting multiple destinations and storing large amounts of messages.

1. Your company has branch offices on five continents. All the offices are connected to the closest Azure region. You need to recommend an Azure service that provides the following: Automated connectivity between the offices Central control over security aspects of the connectivity Uses the Microsoft backbone for inter-office connectivity Which service should you recommend? Select only one answer.

Azure Private Link

Azure Virtual WAN

Azure VPN Gateway

ExpressRoute

The correct answer is:

**Azure Virtual WAN**

**Explanation:** **Azure Virtual WAN** is a networking service that provides a unified hub for connecting branch offices, remote users, and Azure resources across multiple regions, using the Microsoft backbone network. It enables automated connectivity between offices, central control over security, and optimizes inter-office communication by leveraging Azure's global infrastructure. This solution is designed for large-scale, multi-office networking and ensures high performance and secure connectivity.

* **Azure Private Link** is used for securing private access to Azure services, but it doesn’t provide automated inter-office connectivity.
* **Azure VPN Gateway** provides site-to-site VPN connectivity but is not optimized for large-scale, multi-office global networking and does not use the Microsoft backbone for inter-office traffic.
* **ExpressRoute** offers a private connection to Azure but is more appropriate for connecting on-premises infrastructure to Azure rather than directly interconnecting multiple branch offices.

Azure Virtual WAN is specifically built to meet the need for seamless global connectivity and centralized control across multiple regions and locations.

1. You are designing a multi-tiered application that will be hosted on Azure virtual machines. The virtual machines will run Windows Server. Front-end servers will be accessible from the Internet over port 443. The other servers will NOT be directly accessible over the Internet. You need to recommend a solution to manage the virtual machines that meets the following requirement: Allows the virtual machine to be administered by using Remote Desktop. Minimizes the exposure of the virtual machines on the Internet. Which Azure service should you recommend? Select only one answer.

Azure Bastion

Azure Front Door

Azure Private Link

Service Endpoint

The correct answer is:

**Azure Bastion**

**Explanation:** **Azure Bastion** is a fully managed service that provides secure and seamless RDP (Remote Desktop Protocol) and SSH connectivity to your Azure virtual machines (VMs) over SSL. It minimizes the exposure of your VMs to the Internet by allowing remote desktop access through a secure, fully managed service, without needing to expose the VMs' RDP ports directly to the Internet.

* **Azure Front Door** is designed for global load balancing and application acceleration, but it is not focused on remote administration of virtual machines.
* **Azure Private Link** is used to provide private connectivity to Azure services and would not be suitable for remote desktop management of virtual machines.
* **Service Endpoint** allows private connections to Azure services over a virtual network but does not address remote access to VMs.

Azure Bastion is the ideal choice for securely managing VMs without exposing them to the Internet.

1. You are designing an application that will be deployed on Azure virtual machines. The deployment will consist of one virtual network and three subnets. All traffic between subnets will be inspected by a firewall appliance deployed on one of the subnets. Which component should you include in the design to ensure traffic is inspected by the firewall appliance? Select only one answer.

Application security groups

Azure Virtual WAN

NAT gateways

User defined routes

The correct answer is:

**User defined routes**

**Explanation:** To ensure that traffic between subnets is inspected by the firewall appliance, you need to configure **User Defined Routes (UDRs)**. UDRs allow you to control the flow of traffic between subnets by specifying how traffic should be routed. In this case, you would create a custom route that directs traffic between the subnets to go through the firewall appliance. This ensures that the firewall inspects the traffic before it reaches its destination.

* **Application security groups** are used to control traffic based on application-level rules but don't manage routing between subnets.
* **Azure Virtual WAN** is used for connecting and managing multiple branch offices, and is not needed in this scenario.
* **NAT gateways** provide outbound Internet connectivity for private subnets but are not used to route traffic between subnets through a firewall.

Thus, **User defined routes** are the appropriate choice for ensuring that traffic between subnets is routed through the firewall appliance.

1. You need to design network connectivity for a subnet in an Azure virtual network. The subnet will contain 30 virtual machines. The virtual machines will establish outbound connections to internet hosts by using the same a pool of four public IP addresses. Inbound connections to the virtual machines will be prevented. What should include in the design? Select only one answer. Azure Private Link

Azure Virtual WAN

NAT Gateway

User Defined Routes

The correct answer is:

**NAT Gateway**

**Explanation:** A **NAT Gateway** is the best solution for allowing outbound internet connectivity for a pool of virtual machines in a subnet while preventing inbound connections. The NAT Gateway allows multiple virtual machines to share a set of public IP addresses for outbound traffic, which matches the requirement of having a pool of four public IP addresses for outbound connections. It also ensures that inbound traffic is blocked, aligning with the design requirements.

* **Azure Private Link** is used to provide private connectivity to Azure services and would not address the need for outbound internet access using shared public IPs.
* **Azure Virtual WAN** is a global networking solution for connecting branch offices and remote users, not specifically for managing outbound connections from a subnet.
* **User Defined Routes (UDRs)** control the routing of traffic but do not manage the translation of private IP addresses to public IP addresses for outbound internet traffic.

Therefore, **NAT Gateway** is the correct choice for enabling the required outbound internet connectivity with shared public IP addresses while blocking inbound traffic.

1. You are designing an Azure Synapse Analytics workspace that will perform near real-time analytics of operational data stored in a Cosmos DB database. What component should you recommend? Select only one answer.

Synapse dedicated SQL pool

Synapse Link

Synapse Pipelines

Synapse Studio

The correct answer is:

**Synapse Link**

**Explanation:** **Synapse Link** for Azure Cosmos DB enables near real-time analytics of operational data stored in Cosmos DB by allowing you to analyze the data directly from Cosmos DB without the need to move or copy the data. It integrates Cosmos DB with Azure Synapse Analytics, enabling seamless analytical workloads while maintaining real-time access to operational data.

* **Synapse dedicated SQL pool** is used for running large-scale analytics on structured data within Synapse but is not specifically designed for integrating with Cosmos DB in real-time.
* **Synapse Pipelines** are used for orchestrating data movement and transformation but are not specifically optimized for real-time analytics on operational data in Cosmos DB.
* **Synapse Studio** is the development environment used for managing and developing Synapse workflows but is not a component that enables real-time analytics directly.

Therefore, **Synapse Link** is the correct solution for performing near real-time analytics on data stored in Cosmos DB.

1. You need to design a data storage solution that meets the following requirements: Support JSON and CSV files. Provide a hierarchical namespace. Supports Apache Hadoop Distributed File System (HDFS) as the data access layer. Which data storage solution should you recommend? Select only one answer.

Azure Blob Storage

Azure Cosmos DB for Apache Gremlin

Azure Data Lake

Azure SQL Database

The correct answer is:

**Azure Data Lake**

**Explanation:** **Azure Data Lake** is specifically designed for big data analytics workloads and meets the requirements of supporting JSON and CSV files, providing a hierarchical namespace, and supporting the Apache Hadoop Distributed File System (HDFS) as the data access layer. Azure Data Lake Storage Gen2 builds on Azure Blob Storage by adding hierarchical namespaces, which is essential for managing large datasets in a more structured way.

* **Azure Blob Storage** supports JSON and CSV files but does not provide a hierarchical namespace or native support for HDFS.
* **Azure Cosmos DB for Apache Gremlin** is designed for graph-based data models and is not intended for storing or processing files like JSON or CSV.
* **Azure SQL Database** is a relational database service and is not optimized for storing large unstructured data sets or supporting HDFS for big data analytics.

Therefore, **Azure Data Lake** is the best choice for this scenario.

1. You plan to use Azure Data Factory to implement data movement and integration. You need to identify which Data Factory component to create to combine multiple movement and integration activities. Which component should you identify? Select only one answer.

dataset

integration runtime

linked service

pipeline

The correct answer is:

**pipeline**

**Explanation:** In Azure Data Factory, a **pipeline** is a logical grouping of activities that perform a specific task, such as data movement or transformation. A pipeline can contain multiple activities, and it is used to combine different movement and integration tasks (such as copying data, running transformations, and invoking other services) into a single unit of execution.

* **Dataset** represents the data structure (e.g., the source or destination data) used in the activities within a pipeline but does not combine multiple activities.
* **Integration runtime** is the compute infrastructure that is used to move and transform data in Azure Data Factory. It facilitates the data movement but does not combine multiple tasks.
* **Linked service** defines the connection information to a data source or destination, but it is not responsible for combining activities or running them in sequence.

Therefore, **pipeline** is the correct component for combining multiple activities in Azure Data Factory.

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