IBM

C1000-172 Exam

IBM Cloud Professional Architect v6

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QUESTIONS & ANSWERS

DEMO VERSION

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Version: 4.0

Question: 1

Which feature optimizes the work of load balancers on IBM Cloud?

A. Citrix NetScaler VPX
B. Traffic Steering
C. Standard Failover
D. Global Load Balancer

Answer: B

Explanation:

Traffic Steering is a feature in IBM Cloud that optimizes the work of load balancers by directing traffic to the most appropriate resources based on predefined criteria, such as geographic location, resource availability, or other custom rules. This feature is crucial for optimizing application performance, reducing latency, and ensuring high availability across different regions and data centers.

IBM Cloud Load Balancer Overview: The IBM Cloud Load Balancer offers several advanced capabilities, including Traffic Steering, which enables intelligent routing of client requests. Traffic Steering can be configured to direct traffic to different backend servers or pools based on various policies like weighted round-robin, geographic proximity, or failover conditions. This optimizes the distribution of workloads and enhances the reliability and responsiveness of applications deployed on the IBM Cloud.

Importance of Traffic Steering: Traffic Steering is particularly beneficial in scenarios involving multi-region deployments. It ensures that user requests are served by the closest or most responsive data center, thereby minimizing response times and improving the end-user experience. It also enables flexible routing based on business logic or dynamic conditions, such as sudden surges in traffic or failures in specific regions.

Global Load Balancer Role: While the Global Load Balancer (Option D) is used for distributing traffic across multiple regions, Traffic Steering is a specific feature within the load balancing suite that controls how traffic is managed. Traffic Steering complements the Global Load Balancer by providing fine-grained control over traffic distribution strategies, enabling more efficient utilization of resources.

Reference:

IBM Cloud Load Balancer Documentation

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IBM Cloud Traffic Steering

Question: 2

Which supported use case is for IBM Cloud for VMware virtualized data center extension?

A. Manage security detection and response
B. Modernize security with open multicloud platform
C. Migration to the cloud
D. Accelerate regulatory compliance

Answer: C

Explanation:

The use case for "Migration to the cloud" is most relevant when considering IBM Cloud for VMware solutions, particularly in the context of virtualized data center extension. Here's why:

Migration to the Cloud: IBM Cloud for VMware is designed to help organizations extend their on-premises VMware environments into the IBM Cloud. This is achieved through hybrid cloud architectures that leverage VMware's technology stack in a cloud environment. Migrating existing workloads to the cloud without needing to refactor applications is one of the primary use cases for IBM Cloud for VMware. This is particularly beneficial for businesses looking to transition to the cloud while maintaining compatibility with their existing VMware tools and processes.

Supported Use Case Explanation: When extending a VMware-based data center to IBM Cloud, the solution allows for a seamless "lift-and-shift" migration. Organizations can move their virtual

machines (VMs) and applications to the IBM Cloud without changing their underlying infrastructure. This use case supports continuity, speed, and minimal disruption, which is why "Migration to the cloud" is the correct answer.

Reference from IBM Cloud Professional Architect Materials:

According to IBM's documentation on IBM Cloud for VMware Solutions, one of the primary use cases is the ability to extend data center capabilities by migrating VMware workloads to the IBM Cloud. This extends existing investments in VMware technology while optimizing infrastructure by taking advantage of IBM Cloud's global data centers and enterprise-grade security and scalability.

IBM Cloud for VMware is positioned as a solution to help businesses modernize their IT infrastructure by moving to the cloud while avoiding the complexity of refactoring their existing workloads and applications, aligning directly with the concept of "Migration to the cloud."

In contrast, the other options:

A . Manage security detection and response: This use case pertains more to IBM's security solutions rather than specific to VMware cloud migration.

B . Modernize security with an open multicloud platform: This is a broader concept that is not directly tied to VMware environments and their extension or migration.

D . Accelerate regulatory compliance: While this can be an outcome of using IBM Cloud, it is not a specific use case for extending a VMware virtualized data center to the cloud.

Question: 3

Why does IBM Cloud Analytics Engine decouple compute and storage?

A. Compute can be scaled but storage costs are fixed
B. Storage can be scaled but not compute
C. To achieve scale independently and control costs
D. Compute can be scaled but not storage

Answer: C

Explanation:

IBM Cloud Analytics Engine decouples compute and storage to provide independent scaling and cost

management capabilities. This approach allows organizations to scale compute resources (such as CPU and memory) separately from storage resources, optimizing both performance and cost.

Independent Scaling: Decoupling compute and storage means that users can scale the computational power (e.g., number of nodes, processing capabilities) independently of the storage capacity (e.g., data stored in IBM Cloud Object Storage). This is particularly useful in data analytics workloads where the compute requirements may vary significantly over time, but the storage requirements remain relatively constant.

Cost Control: By allowing compute and storage to be managed separately, users have greater flexibility to control costs. For example, users can increase compute power temporarily to handle a peak workload without the need to increase storage costs. Conversely, they can store large datasets without paying for unused compute capacity. This decoupling leads to a more cost-effective and efficient use of cloud resources.

Advantages in Cloud Environments: Decoupling compute and storage aligns with the best practices in modern cloud environments, where elasticity, scalability, and cost efficiency are paramount. It allows organizations to adapt quickly to changing business needs and workload demands, reducing overhead and improving resource utilization.

Reference:

IBM Cloud Analytics Engine Documentation

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IBM Cloud Object Storage

Question: 4

Which statement best describes an IBM Cloud multizone region (MZR)?

A. A region that offers increased security compared to single zone regions
B. A region where a failure in one zone affects all other zones
C. A region with multiple geographical locations
D. A region that consists of at least three or more separate and interconnected zones

Answer: D

Explanation:

An IBM Cloud multizone region (MZR) is designed to enhance the availability, reliability, and resilience of cloud services. It consists of three or more separate, geographically dispersed zones within a single region, which are interconnected through high-speed and low-latency networks.

Multiple Zones for High Availability: In a multizone region, each zone represents a separate data center or availability zone with its own independent power, cooling, and networking. The multiple zones are interconnected, allowing for failover capabilities. If one zone experiences a failure, services can continue to operate in another zone within the same MZR, minimizing downtime and ensuring business continuity.

Resilience and Disaster Recovery: MZRs are specifically designed to offer a higher level of fault tolerance compared to single-zone regions. They provide geographic redundancy within the same region, meaning that workloads can be replicated across different zones, thereby protecting against zone-level failures.

Interconnected Yet Independent: While the zones within an MZR are interconnected for data replication and low-latency communication, they are also physically and logically separated to prevent a single point of failure from affecting multiple zones.

Comparison with Other Options:

Option A is partially correct but does not fully describe an MZR.

Option B is incorrect because a failure in one zone does not affect all other zones.

Option C is incorrect as it does not specify that an MZR consists of multiple zones within the same geographical region.

Reference:

IBM Cloud Multizone Regions (MZR) Overview

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IBM Cloud Global Data Center Locations

Question: 5

A client is using IBM Cloud Schematics to build Infrastructure as Code using a declarative approach. When using this approach, what does the declarative approach define?

A. Future state
B. End state or desired state
C. Declarative state
D. Start state

Answer: B

Explanation:

In Infrastructure as Code (IaC) using IBM Cloud Schematics, a declarative approach defines the "end state" or "desired state" of the infrastructure.

Declarative Approach: In the declarative model, you specify the final desired state of the infrastructure you want, and the IaC tool (IBM Cloud Schematics in this case) takes the responsibility of determining the sequence of steps necessary to achieve that state. This is opposed to an imperative approach, where you explicitly define each step required to reach the desired outcome.

IBM Cloud Schematics: IBM Cloud Schematics is a tool that allows users to define their infrastructure and services as code using Terraform. In a declarative approach, the user creates Terraform configuration files that describe the desired state of all resources, like VMs, networks, databases, etc. Schematics then reconciles the current state with the desired state by applying the appropriate changes.

Reference from IBM Cloud Professional Architect Materials:

According to IBM documentation on IBM Cloud Schematics, it focuses on defining the desired state (end state) of the resources. This is a fundamental concept of Infrastructure as Code (IaC) and the declarative approach in cloud computing.

The other options do not accurately describe the declarative approach:

A . Future state is too vague and not a recognized term in the context of IaC.

C . Declarative state is not a defined term in the IaC context.

D . Start state refers to the initial configuration, not the desired outcome.

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