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QUESTION 1

A systems administrator is deploying a new cloud application and needs to provision cloud services with minimal effort. The administrator wants to reduce the tasks required for maintenance, such as OS patching, VM and volume provisioning, and autoscaling configurations. Which of the following would be the BEST option to deploy the new application?

A. A VM cluster

B. Containers

C. OS templates

D. Serverless

Correct Answer: D

Serverless is what would be the best option to deploy a new cloud application and provision cloud services with minimal effort while reducing the tasks required for maintenance such as OS patching, VM and volume provisioning, and

autoscaling configurations. Serverless is a cloud service model that provides customers with a platform to run applications or functions without having to manage or provision any underlying infrastructure or resources, such as servers,

storage, network, OS, etc.

Serverless can provide benefits such as:

Minimal effort: Serverless can reduce the effort required to deploy a new cloud application and provision cloud services by automating and abstracting away all the infrastructure or resource management or provisioning tasks from customers,

and allowing them to focus only on writing code or logic for their applications or functions.

Reduced maintenance: Serverless can reduce the tasks required for maintenance by handling all the infrastructure or resource maintenance tasks for customers, such as OS patching, VM and volume provisioning, autoscaling configurations,

etc., and ensuring that they are always up-to-date and optimized.

QUESTION 2

A cloud solutions architect has an environment that must only be accessed during work hours. Which of the following processes should be automated to BEST reduce cost?

A. Scaling of the environment after work hours

B. Implementing access control after work hours

C. Shutting down the environment after work hours

D. Blocking external access to the environment after work hours

Correct Answer: C

One of the main benefits of cloud computing is that you only pay for the resources that you use. However, this also means that you need to manage your cloud resources efficiently and avoid paying for idle or unused resources1. Shutting down the environment after work hours is a process that can be automated to best reduce cost in a cloud environment that must only be accessed during work hours. This process involves stopping or terminating the cloud resources, such as virtual machines, databases, load balancers, etc., that are not needed outside of the work hours. This can significantly reduce the cloud bill by avoiding charges for compute, storage, network, and other services that are not in use2. The other options are not the best processes to automate to reduce cost in this scenario: Option A: Scaling of the environment after work hours. Scaling is a process that involves adjusting the number or size of cloud resources to match the demand or workload. Scaling can be done manually or automatically using triggers or policies. Scaling can help optimize the performance and availability of a cloud environment, but it does not necessarily reduce the cost. Scaling down the environment after work hours may reduce some costs, but it may still incur charges for the remaining resources. Scaling up the environment before work hours may increase the cost and also introduce delays or errors in provisioning new resources3. Option B: Implementing access control after work hours. Access control is a process that involves defining and enforcing rules and policies for who can access what resources in a cloud environment. Access control can help improve the security and compliance of a cloud environment, but it does not directly affect the cost. Implementing access control after work hours may prevent unauthorized access to the environment, but it does not stop or terminate the resources that are still running and consuming cloud services4. Option D: Blocking external access to the environment after work hours. Blocking external access is a process that involves restricting or denying network traffic from outside sources to a cloud environment. Blocking external access can help protect the environment from potential attacks or breaches, but it does not impact the cost. Blocking external access after work hours may prevent unwanted requests or connections to the environment, but it does not shut down or release the resources that are still active and generating cloud charges.

QUESTION 3

A systems administrator is about to deploy a new VM to a cloud environment. Which of the following will the administrator MOST likely use to select an address for the VM?

A. CDN

B. DNS

C. NTP

D. IPAM

Correct Answer: D

IPAM (IP Address Management) is what the administrator will most likely use to select an address for the new VM that is about to be deployed to a cloud environment. IPAM is a tool or service that allows customers to plan, track, and manage the IP addresses and DNS names of their cloud resources or systems. IPAM can help to select an address for the new VM by providing information such as available IP addresses, IP address ranges, subnets, domains, etc., as well as ensuring that the address is unique and valid.

QUESTION 4

A cloud architect is receiving complaints from VDI users overseas about slowness even though the remote office has Gigabit internet. Which of the following will most likely solve the issue?

A. Increasing bandwidth

B. Enabling compression

C. Lowering latency

D. Adding redundancy

Correct Answer: C

QUESTION 5

A cloud solutions architect has an environment that must only be accessed during work hours. Which of the following processes should be automated to best reduce cost?

A. Scaling of the environment after work hours

B. Implementing access control after work hours

C. Shutting down the environment after work hours

D. Blocking external access to the environment after work hours

Correct Answer: C

Shutting down the environment after work hours is the best process to automate to reduce cost, as it will stop incurring charges for the cloud resources that are not needed outside of work hours. Scaling, implementing access control, or blocking external access may still incur some costs for the cloud resources that are running or reserved, even if they are not fully utilized. Shutting down the environment can be automated using scripts, schedules, or triggers that can turn off or deallocate the cloud resources based on time or usage criteria12.

QUESTION 6

A web consultancy group currently works in an isolated development environment. The group uses this environment for the creation of the final solution, but also for showcasing it to customers, before commissioning the sites in production. Recently, customers of newly commissioned sites have reported they are not receiving the final product shown by the group, and the website is performing in unexpected ways. Which of the following additional environments should the group adopt and include in its process?

A. Provide each web consultant a local environment on their device.

B. Require each customer to have a blue-green environment.

C. Leverage a staging environment that is tightly controlled for showcasing

D. Initiate a disaster recovery environment to fail to in the event of reported issues.

Correct Answer: C

The answer is C. Leverage a staging environment that is tightly controlled for showcasing. A staging environment is a replica of the production environment that is used for testing and demonstrating the final product before deployment. A staging environment can help the web consultancy group avoid the issues reported by the customers, such as mismatched expectations and unexpected behavior, by ensuring that the product is shown in a realistic and consistent

setting. A staging environment can also help the group catch and fix any bugs or errors before they affect the live site. Some possible sources of information about web development environments are: 7 Web Development Best Practices: This page provides some general tips and best practices for web development, such as planning, accessibility, UX/UI, standards, code quality, compatibility, and security. Web Development Best Practices (Building Real-World Cloud Apps with Azure): This page explains some specific best practices for web development in the cloud environment, such as stateless web tier, session state management, CDN caching, and async programming. Web Development Best Practices: This page lists some resources for learning web development best practices in ASP.NET, such as async and await, building real- world cloud apps with Azure, and hands-on labs.

QUESTION 7

A systems administrator in a large enterprise needs to alter the configuration of one of the finance department\\'s database servers.

Which of the following should the administrator perform FIRST?

A. Capacity planning

B. Change management

C. Backups

D. Patching

Correct Answer: B

The SA would do the other three regardless of the need to alter configurations. In this situation, the SA would have to present the change to the CCB in order to do the alteration. There is no clarification on whether the change management process has been gone through. Any changes, regardless of how small or big, must go through the change management process. This allows proposals to be heard by end-users, management, and possibly stockholders. From there, it will be reviewed and either approved or denied, with reasons specified. From there, the administrator(s) can do whatever processes are necessary. Change management is a process or procedure that defines the steps, roles, and responsibilities for implementing, documenting, and communicating any changes or updates to a system or service. Change management can help ensure that any changes or updates are done in a controlled and consistent manner, minimizing any risks or impacts to the system or service. Performing change management is the first thing that a systems administrator should do before altering the configuration of one of the finance department\\'s database servers, as it can ensure that the change request is approved, authorized, tested, and verified before applying it to the database server. References: CompTIA Cloud+ Certification Exam Objectives, page 13, section 2.5

QUESTION 8

A systems administrator is diagnosing performance issues on a web application. The web application sends thousands of extremely complex SQL queries to a database server, which has trouble retrieving the information in time. The administrator checks the database server and notes the following resource utilization:

1.

CPU: 64%

2.

RAM: 97%

3.

Network throughput: 384,100Kbps.

4.

Disk throughput: 382,700Kbps

The administrator also looks at the storage for the database server and notices it is consistently near its OPS limit. Which of the following will BEST resolve these performance issues?

A. Increase CPU resources on the database server.

B. Increase caching on the database server.

C. Put the storage and the database on the same VLAN.

D. Enable compression on storage traffic.

E. Enable deduplication on the storage appliance.

Correct Answer: B

The performance issue is caused by the high demand of complex SQL queries on the database server, which consumes a lot of RAM and disk throughput. Increasing caching on the database server would reduce the number of disk reads and writes, as well as improve the response time of the queries by storing frequently accessed data in memory. This would be the best solution to resolve the performance issue. Reference: CompTIA Cloud+ Certification Exam Objectives, Domain 4.0 Troubleshooting, Objective 4.3 Given a scenario, troubleshoot capacity issues within a cloud environment.

QUESTION 9

An organization is developing a new online product. The product must:

Minimize organizational infrastructure and comply with security standards.

Minimize organizational compliance efforts.

Focus on application development and increase speed to market.

Which of the following should the organization consider, given the requirements listed above?

A. Use cloud-native serverless services.

B. Implement automated compliance scanning tools.

C. Harden servers using repeatable compliance templates.

D. Deploy compliance linters in the CI/CD pipeline.

Correct Answer: A

Explanation: One possible answer is:

A. Use cloud-native serverless services.

Cloud-native serverless services are a type of cloud computing that allows developers to build and run applications without having to manage servers, infrastructure, or scaling. Cloud-native serverless services can help the organization meet

the requirements listed above, as they can:

Minimize organizational infrastructure and comply with security standards. Cloud- native serverless services are fully managed by the cloud provider, which means the organization does not have to provision, configure, or maintain any servers or infrastructure. The cloud provider also handles the security aspects of the serverless environment, such as encryption, authentication, authorization, patching, and monitoring. The organization can focus on developing the application logic and rely on the cloud provider to meet the security standards12. Minimize organizational compliance efforts. Cloud-native serverless services can also help the organization reduce the compliance burden, as they can leverage the compliance certifications and attestations of the cloud provider. The cloud provider can ensure that the serverless environment complies with various regulations and standards, such as PCI DSS, HIPAA, GDPR, ISO 27001, etc. The organization can inherit the compliance posture of the cloud provider and avoid the hassle of auditing and validating their own infrastructure12. Focus on application development and increase speed to market. Cloud-native serverless services can also enable the organization to accelerate the development and delivery of their online product, as they can write code using their preferred programming languages and frameworks, and deploy it quickly and easily to the serverless environment. The serverless environment can automatically scale up or down based on the demand, ensuring high availability and performance. The organization can also integrate serverless services with other cloud services, such as databases, storage, analytics, etc., to create a full- stack application12.

QUESTION 10

A cloud administrator needs to reduce storage costs. Which of the following would best help the administrator reach that goal?

A. Enabling compression

B. Implementing deduplication

C. Using containers

D. Rightsizing the VMs

Correct Answer: B

Explanation: Deduplication is a process by which redundant data is eliminated, thus reducing the size of the dataset. Deduplication with cloud storage reduces the storage requirements, along with the amount of data to be transferred over the network, resulting in faster and more efficient data protection operations1. Deduplication can help to shrink the data footprint, lower the storage costs, and improve the performance of backup and recovery processes2. Deduplication can be applied at different levels, such as file-level, block-level, or byte-level, depending on the granularity and efficiency of the technique3. Deduplication can also be performed at different locations, such as source, target, or cloud, depending on the architecture and design of the storage system3. By implementing deduplication, a cloud administrator can achieve significant data savings and optimize the cloud storage costs4. References: Data deduplication techniques for efficient cloud storage management: a systematic review; How Data Deduplication Reduces Cloud Data Costs; How Data Deduplication Can Save Cloud Storage Costs?; Data Deduplication Overview; What is Data Deduplication and How Can it Help Reduce Cloud Costs?.

QUESTION 11

A company plans to publish a new application and must conform with security standards. Which of the following types of testing are most important for the systems administrator to run to assure the security and compliance of the application

before publishing? (Select two).

A. Regression testing

B. Vulnerability testing

C. Usability testing

D. Functional testing

E. Penetration testing

F. Load testing

Correct Answer: BE

Explanation: Vulnerability testing and penetration testing are two types of security testing that can help to identify and mitigate potential risks in an application before publishing. Vulnerability testing is the process of scanning the application for known weaknesses or flaws that could be exploited by attackers. Penetration testing is the process of simulating real-world attacks on the application to test its defenses and find vulnerabilities that may not be detected by automated scans. Both types of testing can help to assure the security and compliance of the application by revealing and resolving any issues that could compromise the confidentiality, integrity, or availability of the application or its data. References: CompTIA Cloud+ CV0-003 Study Guide, Chapter 5: Maintaining a Cloud Environment, page 221.

QUESTION 12

A cloud administrator is managing an organization\\'s infrastructure in a public cloud. All servers are currently located in a single virtual network with a single firewall that all traffic must pass through. Per security requirements, production, QA, and development servers should not be able to communicate directly with each other. Which of the following should an administrator perform to comply with the security requirement?

A. Create separate virtual networks for production, QA, and development servers. Move the servers to the appropriate virtual network. Apply a network security group to each virtual network that denies all traffic except for the firewall.

B. Create separate network security groups for production, QA, and development servers. Apply the network security groups on the appropriate production, QA, and development servers. Peer the networks together.

C. Create separate virtual networks for production, QA, and development servers. Move the servers to the appropriate virtual network. Peer the networks together.

D. Create separate network security groups for production, QA, and development servers. Peer the networks together. Create static routes for each network to the firewall.

Correct Answer: A

These are the actions that the administrator should perform to comply with the security requirement of isolating production, QA, and development servers from each other in a public cloud environment:

Create separate virtual networks for production, QA, and development servers: A virtual network is a logical isolation of network resources or systems within a cloud environment. Creating separate virtual networks for different types of servers

can help to segregate them from each other and prevent direct communication or interference.

Move the servers to the appropriate virtual network: Moving the servers to the appropriate virtual network can help to

assign them to their respective roles and functions, as well as ensure that they follow the network policies and rules of their

virtual network.

Apply a network security group to each virtual network that denies all traffic except for the firewall: A network security group is a set of rules or policies that control and filter inbound and outbound network traffic for a virtual network or system.

Applying a network security group to each virtual network that denies all traffic except for the firewall can help to enforce security and compliance by blocking any unauthorized or unwanted traffic between different types of servers, while

allowing only necessary traffic through the firewall.

QUESTION 13

A systems administrator needs to implement a way for users to verify software integrity. Which of the following tools would BEST meet the administrator\\'s needs?

A. TLS 1.3

B. CRC32

C. AES-256

D. SHA-512

Correct Answer: D

Reference: https://en.wikipedia.org/wiki/SHA-2

QUESTION 14

An environment has a dual-stack infrastructure in an active-active configuration in two separate data centers. Which of the following best describes replication between the two sites?

A. Data is moved constantly from the hot site to the warm site.

B. Data is replicated every 15 minutes from one site to the other.

C. Data is moved from one site to the other once per day.

D. Data is synchronized in real time across the sites.

E. Data is moved twice a day from Site A to Site B, and then from Site B to Site A.

Correct Answer: D

Explanation: A dual-stack infrastructure is a network that supports both IPv4 and IPv6 protocols. An active-active configuration is a high-availability cluster that distributes workloads across two or more nodes that are running the same service simultaneously. Replication between the two sites means that data is copied from one site to another to ensure consistency and redundancy. Data synchronization is the process of ensuring that data is identical across multiple locations. Therefore, data synchronization in real time means that data is replicated as soon as it changes on either site,

without any delay or lag. References: Active-Active vs. Active-Passive High-Availability Clustering, Dual-stack IPv6 architectures for AWS and hybrid networks ?Part 2, Understanding Dual Stacking of IPv4 and IPv6 Unicast Addresses

QUESTION 15

A cloud architect is designing the VPCs for a new hybrid cloud deployment. The business requires the following:

1.

High availability

2.

Horizontal auto-scaling

3.

60 nodes peak capacity per region

4.

Five reserved network IP addresses per subnet

5.

/24 range

Which of the following would BEST meet the above requirements?

A. Create two /25 subnets in different regions

B. Create three /25 subnets in different regions

C. Create two /26 subnets in different regions

D. Create three /26 subnets in different regions

E. Create two /27 subnets in different regions

F. Create three /27 subnets in different regions

Correct Answer: A

You need 65 IPs per region. /27 will only give you 32 and /26 will only give you 64. You need a /25 network which will give you 128 per region. Having two regions will give you the requirement of high availability. Yes, 3 regions is better than 2, but it doesn\\'t ask for the best high availability option, it just asks for high availability which 2 regions provides.