

CompTIA

Exam Questions CV0-004

CompTIA Cloud+



NEW QUESTION 1

A systems administrator needs to configure backups for the company's on-premises VM cluster. The storage used for backups will be constrained on free space until the company can implement cloud backups. Which of the following backup types will save the most space, assuming the frequency of backups is kept the same?

- A. Snapshot
- B. Full
- C. Differential
- D. Incremental

Answer: D

Explanation:

An incremental backup strategy saves space because it only backs up data that has changed since the last backup. Compared to full and differential backups, incremental backups are smaller and save more space, which is essential when storage is constrained. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 2

A cloud administrator recently created three servers in the cloud. The goal was to create ACLs so the servers could not communicate with each other. The servers were configured with the following IP addresses:

| | Server 1 | Server 2 | Server 3 |
|-----------------|-----------------|-----------------|-----------------|
| IP address | 172.16.12.7 | 172.16.12.14 | 172.16.13.4 |
| Subnet mask | 255.255.255.240 | 255.255.255.240 | 255.255.255.240 |
| Default gateway | 172.16.12.1 | 172.16.12.17 | 172.16.13.15 |

After implementing the ACLs, the administrator confirmed that some servers are still able to reach the other servers. Which of the following should the administrator change to prevent the servers from being on the same network?

- A. The IP address of Server 1 to 172.16.12.36
- B. The IP address of Server 1 to 172.16.12.2
- C. The IP address of Server 2 to 172.16.12.18
- D. The IP address of Server 2 to 172.16.14.14

Answer: B

Explanation:

To prevent the servers from being on the same network and communicating with each other, the administrator should change the IP address of Server 1 to 172.16.12.2. This IP address is outside the subnet defined by the subnet mask 255.255.255.240, which would place Server 1 on a different subnet, preventing direct communication without routing. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 3

A newly configured VM fails to run application updates despite having internet access. The updates download automatically from a third-party network. Given the following output:

```
$dig +short apac.update-server.net
38.102.218.7
$dig +short na.update-server.net
request timeout
```

Which of the following troubleshooting steps would be best to take?

- A. Checking DNS configurations
- B. Reconfiguring routing protocols
- C. Testing the IP address configuration
- D. Running a trace to the router

Answer: A

Explanation:

The best troubleshooting step to take given the output is to check DNS configurations. The failure to resolve the "na.update-server.net" domain suggests a DNS resolution issue, which could be due to incorrect DNS settings, a failure in the DNS service, or an issue with the DNS server itself. References: Troubleshooting DNS issues is a crucial skill in cloud management, as DNS plays a fundamental role in network connectivity and access to resources. It is covered under Cloud Concepts in the CompTIA Cloud+ curriculum.

NEW QUESTION 4

An on-premises data center is located in an earthquake-prone location. The workload consists of real-time, online transaction processing. Which of the following data protection strategies should be used to back up on-premises data to the cloud while also being cost effective?

- A. Remote replication for failover
- B. A copy that is RAID 1 protected on spinning drives in an on-premises private cloud
- C. A full backup to on-site tape libraries in a private cloud
- D. Air-gapped protection to provide cyber resiliency

Answer: A

Explanation:

Remote replication for failover is the data protection strategy that should be used to back up on-premises data to the cloud for an earthquake-prone location. It provides real-time or near-real-time copying of data to a remote location, which can be quickly activated in case the primary site fails. References: Disaster recovery strategies, including remote replication for failover, are part of the cloud-based data protection methods covered in the CompTIA Cloud+ certification.

NEW QUESTION 5

A manager wants information about which users signed in to a certain VM during the past month. Which of the following can the cloud administrator use to obtain this information?

- A. Retention
- B. Alerting
- C. Aggregation
- D. Collection

Answer: D

Explanation:

To obtain information about which users signed in to a certain VM during the past month, a cloud administrator can use log collection. Log collection involves gathering and storing logs from various sources, including VMs, to provide historical data on system access and activity, which can then be analyzed to identify user login instances. References: The CompTIA Cloud+ certification emphasizes the importance of monitoring and visibility in cloud environments, which includes log collection and analysis as key components of operational management and security monitoring.

NEW QUESTION 6

A company requests that its cloud administrator provision virtual desktops for every user. Given the following information:

- One hundred users are at the company.
- A maximum of 30 users work at the same time.
- Users cannot be interrupted while working on the desktop. Which of the following strategies will reduce costs the most?

- A. Provisioning VMs of varying sizes to match user needs
- B. Configuring a group of VMs to share with multiple users
- C. Using VMs that have spot availability
- D. Setting up the VMs to turn off outside of business hours at night

Answer: D

Explanation:

Setting up the VMs to turn off outside of business hours at night will reduce costs the most, especially since a maximum of 30 users work at the same time and users cannot be interrupted while working. This approach ensures that resources are used only when necessary. References: Cost management and efficient resource utilization strategies like scheduling VMs to turn off during idle times are discussed within the financial management aspects of cloud services in the CompTIA Cloud+ exam objectives.

NEW QUESTION 7

Which of the following network types allows the addition of new features through the use of network function virtualization?

- A. Local area network
- B. Wide area network
- C. Storage area network
- D. Software-defined network

Answer: D

Explanation:

A Software-Defined Network (SDN) is a network approach that allows the addition of new features through software configurations rather than hardware updates, making use of network function virtualization (NFV). NFV decouples network functions from proprietary hardware appliances, so they can run in software, which aligns with the flexibility offered by SDN. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Network Management

NEW QUESTION 8

Which of the following strategies requires the development of new code before an application can be successfully migrated to a cloud provider?

- A. Refactor

- B. Rearchitect
- C. Rehost
- D. Replatform

Answer: A

Explanation:

Refactoring requires the development of new code before an application can be successfully migrated to a cloud provider. It often involves restructuring and optimizing the existing code without changing its external behavior to fit into the new cloud environment. References: Application migration strategies and the requirements for each, like refactoring, are included in cloud migration best practices covered in CompTIA Cloud+.

NEW QUESTION 9

A security engineer identifies a vulnerability in a containerized application. The vulnerability can be exploited by a privileged process to read the content of the host's memory. The security engineer reviews the following Dockerfile to determine a solution to mitigate similar exploits:

```
FROM alpine:3.17
RUN apk update && apk upgrade
COPY . /myapp
ENTRYPOINT ["/myapp/app"]
```

Which of the following is the best solution to prevent similar exploits by privileged processes?

- A. Adding the USER myappuser instruction
- B. Patching the host running the Docker daemon
- C. Changing FROM alpine:3.17 to FROM alpine:latest
- D. Running the container with the read-only filesystem configuration

Answer: A

Explanation:

Adding the "USER myappuser" instruction to the Dockerfile is the best solution to prevent similar exploits by privileged processes. This instruction ensures that the container runs as a non-privileged user instead of the root user, significantly reducing the risk of privileged exploits. Running containers with least privilege principles minimizes the potential impact of vulnerabilities, enhancing the overall security posture of the containerized environment. References: The CompTIA Cloud+ framework includes security concerns, measures, and concepts for cloud operations, highlighting the importance of container security practices, such as running containers as non-root users to prevent unauthorized access and exploitation.

NEW QUESTION 10

The change control board received a request to approve a configuration change to deploy in the cloud production environment. Which of the following should have already been completed?

- A. Penetration test
- B. End-to-end security testing
- C. Cost benefit analysis
- D. User acceptance testing

Answer: D

Explanation:

Before a configuration change is deployed in the cloud production environment, it is crucial to conduct User Acceptance Testing (UAT). UAT involves testing the system by the end-users or clients to ensure it can handle required tasks in real-world scenarios, according to specifications. This testing is the final stage before the change is approved for production, ensuring that all functionalities meet user requirements and the system is ready for deployment. References: The CompTIA Cloud+ certification highlights the significance of various testing phases, including UAT, as part of the cloud deployment process to validate the system's readiness and functionality for end-users.

NEW QUESTION 10

A DevOps engineer is integrating multiple systems. Each system has its own API that exchanges data based on different application-level transactions. Which of the following delivery mechanisms would best support this integration?

- A. Enterprise service bus
- B. Socket
- C. RPC
- D. Queue

Answer: A

Explanation:

An Enterprise Service Bus (ESB) is designed to facilitate application integration by providing a centralized architecture for high-level, message-based, and event-driven communication between different systems. It is particularly well-suited for integrating multiple systems with their own APIs because it can handle various data formats and protocols, enabling different applications to communicate with each other seamlessly. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 13

A company runs a discussion forum that caters to global users. The company's monitoring system reports that the home page suddenly is seeing elevated response times, even though internal monitoring has reported no issues or changes. Which of the following is the most likely cause of this issue?

- A. Cryptojacking
- B. Human error
- C. DDoS
- D. Phishing

Answer: C

Explanation:

Elevated response times without reported issues or changes internally could indicate a Distributed Denial of Service (DDoS) attack, where multiple systems flood the bandwidth or resources of a targeted system, usually one or more web servers. References: CompTIA Security+ Guide to Network Security Fundamentals by Mark Ciampa.

NEW QUESTION 15

A cloud engineer has provisioned a VM for a high-frequency trading application. After the VM is put into production, users report high latency in trades. The engineer checks the last six hours of VM metrics and sees the following:

- CPU utilization is between 30% to 60%.
- NetworkIn is between 50Kbps and 70Kbps.
- NetworkOut is between 3.000Kbps and 5.000Kbps.
- DiskReadOps is at 30.
- DiskWriteOps is at 70
- Memory utilization is between 50% and 70%.

Which of the following steps should the engineer take next to solve the latency issue?

- A. Move to a network-optimized instance type as the network throughput is not enough.
- B. Modify the disk IOPS to a higher value as the disk IO is being bottlenecked at 100 IOPS.
- C. Increase the memory of the instance as the high-frequency trading application requires more RAM.
- D. Increase the instance size to allocate more vCPUs as the CPU utilization is very high.

Answer: A

Explanation:

Since the NetworkOut is significantly higher than NetworkIn and considering the nature of a high-frequency trading application, the issue most likely lies with network throughput. Moving to a network-optimized instance type would provide higher network bandwidth, which can reduce latency in trades. References: This solution is derived from the Management and Technical Operations domain of the CompTIA Cloud+ objectives, focusing on performance optimization for cloud services.

NEW QUESTION 18

A cloud infrastructure administrator updated the IP tables to block incoming connections and outgoing responses to 104.225.110.203. Which of the following vulnerability management steps is this an example of?

- A. Scanning scope
- B. Remediation
- C. Identification
- D. Assessment

Answer: B

Explanation:

Updating the IP tables to block connections to a specific IP address as a response to vulnerabilities is an example of remediation. Remediation involves taking direct action to fix vulnerabilities, such as by applying patches, changing configurations, or, in this case, updating firewall rules to block potentially harmful traffic. References: CompTIA Cloud+ resources and vulnerability management processes

NEW QUESTION 22

A cloud security analyst is investigating the impact of a recent cyberattack. The analyst is reviewing the following information:

Web server access log:

- * 104.210.233.225 - - [21/10/2022:11:17: 40] "POST /uploadfile.html?f=myfile.php" 200 1638674
- * 45.32.10.66 - - [21/10/2022:11:19:12] "GET /welcome.html" 200 5812
- * 104.210.233.225 - - [21/10/2022:11:21:19] "GET /.. / .. / .. / .. /conf/server.xml HTTP/1.1" 200 74458
- * 45.32.10.66 - - [21/10/22:11:22:32] "GET /admin.html HTTP/1.1" 200 9518

Web application firewall log:

- "2022/10/21 11:17:33" "10.25.2.35" "104. 210.233.225" "user1" "File transfer completed successfully."
- "2022/10/21 11:21:05" "10. 25.2. 35" "104. 210.233.225" "user1" "Accessed application page."
- "2022/10/21 11:22:13" "10.25.2.35" "45. 32. 10. 66" "user2" "Accessing admin page. " Which of the following has occurred?

- A. The corporate administration page was defaced by the attacker.
- B. A denial-of-service attack was successfully performed on the web server.
- C. A new user was created on the web server by the attacker.
- D. Sensitive information from the corporate web server was leaked.

Answer: D

Explanation:

The logs indicate that the IP address 104.210.233.225 made a GET request that appears to traverse directories (as indicated by the './././') to access 'server.xml', which is a configuration file for the server. This type of request is indicative of a directory traversal attack, which can lead to unauthorized access to sensitive files on the server. The successful 200 response code suggests that the file was accessed, implying that sensitive configuration data could have been leaked. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 27

A company is developing a new web application that requires a relational database management system with minimal operational overhead. Which of the following should the company choose?

- A. A database installed on a virtual machine
- B. A managed SQL database on the cloud
- C. A database migration service
- D. A hybrid database setup

Answer: B

Explanation:

For a new web application that requires a relational database management system with minimal operational overhead, the company should choose a managed SQL database on the cloud. Managed databases provide automated backups, patching, and other management tasks, reducing the administrative burden. References: The use of managed services, like managed databases, to minimize operational overhead is a strategic decision in cloud computing covered in CompTIA Cloud+.

NEW QUESTION 30

A company has decided to adopt a microservices architecture for its applications that are deployed to the cloud. Which of the following is a major advantage of this type of architecture?

- A. Increased security
- B. Simplified communication
- C. Reduced server cost
- D. Rapid feature deployment

Answer: D

Explanation:

A major advantage of adopting a microservices architecture is rapid feature deployment. Microservices allow for independent development, deployment, and scaling of individual service components, enabling teams to bring new features to market more quickly and efficiently compared to monolithic architectures. References: The CompTIA Cloud+ certification covers cloud design aspects, including architectural models like microservices, emphasizing their role in facilitating agile development practices and rapid feature release cycles in cloud environments.

NEW QUESTION 35

An e-commerce store is preparing for an annual holiday sale. Previously, this sale has increased the number of transactions between two and ten times the normal level of transactions. A cloud administrator wants to implement a process to scale the web server seamlessly. The goal is to automate changes only when necessary and with minimal cost.

Which of the following scaling approaches should the administrator use?

- A. Scale horizontally with additional web servers to provide redundancy.
- B. Allow the load to trigger adjustments to the resources.
- C. When traffic increases, adjust the resources using the cloud portal.
- D. Schedule the environment to scale resources before the sale begins.

Answer: B

Explanation:

To seamlessly scale the web server for an e-commerce store during an annual sale, it's best to allow the load to trigger adjustments to the resources. This approach uses autoscaling to automatically adjust the number of active servers based on the current load, ensuring an automated change that is cost-effective. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Scalability

NEW QUESTION 36

A company wants to optimize cloud resources and lower the overhead caused by managing multiple operating systems. Which of the following compute resources would be best to help to achieve this goal?

- A. VM
- B. Containers
- C. Remote desktops
- D. Bare-metal servers

Answer: B

Explanation:

Containers are the best compute resources to optimize cloud resources and lower the overhead caused by managing multiple operating systems. Containers encapsulate applications and their dependencies into a single executable package, running on a shared OS kernel, which reduces the need for separate operating systems for each application and simplifies resource management. References: CompTIA Cloud+ materials discuss management and technical operations in cloud environments, including the use of containers to improve resource utilization and operational efficiency by minimizing the overhead associated with traditional VMs.

NEW QUESTION 37

A cloud solution needs to be replaced without interruptions. The replacement process can be completed in phases, but the cost should be kept as low as possible. Which of the following is the best strategy to implement?

- A. Blue-green
- B. Rolling
- C. In-place
- D. Canary

Answer: B

Explanation:

A rolling strategy is the best to implement when needing to replace a cloud solution without interruptions and keeping costs low. This approach updates or replaces parts of the system gradually with minimal downtime and allows for a phased implementation. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Deployment and Provisioning

NEW QUESTION 39

A cloud engineer wants to deploy a new application to the cloud and is writing the following script:

```
terraform {
  required_providers {
    cloud_provider1 = {
      source = "hashicorp/cloud_provider1"
      version = "~> 4.16"
    }
  }
  required_version = ">= 1.2.0"
}
provider "cloud_provider1" {
  region = "us-west-2"
}
resource "server_instance" "app_server" {
  ami = "ami-830c94e3"
  instance_type = "t2.micro"
  tags = {
    Name = "AppServerInstance"
  }
}
```

Which of the following actions will this script perform?

- A. Upload a new VM image.
- B. Create a new cloud resource.
- C. Build a local server.
- D. Import a cloud module.

Answer: B

Explanation:

The script shown is written in Terraform, which is an infrastructure as code (IaC) tool used for building, changing, and versioning infrastructure safely and efficiently. This particular Terraform script specifies a required provider and its version, the Terraform version, sets the cloud provider's region, and then defines a resource for a server instance with a specific AMI ID and instance type. It also includes tags for the instance. The action this script will perform is to create a new cloud resource, specifically a server instance on the cloud provider's platform. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 41

A company wants to create a few additional VDIs so support vendors and contractors have a secure method to access the company's cloud environment. When a cloud administrator attempts to create the additional instances in the new locations, the operation is successful in some locations but fails in others. Which of the following is the most likely reason for this failure?

- A. Partial service outages
- B. Regional service availability
- C. Service quotas
- D. Deprecation of functionality

Answer: C

Explanation:

If a cloud administrator can create additional instances in some locations but not others, the most likely reason for this failure is service quotas. Cloud providers often have quotas on the number of resources that can be created, and these limits can vary by region. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Resource Management

NEW QUESTION 46

A high-usage cloud resource needs to be monitored in real time on specific events to guarantee its availability. Which of the following actions should be used to meet this requirement?

- A. Configure a ping command to identify when the cloud instance is out of service.
- B. Create a dashboard with visualizations to filter the status of critical activities.
- C. Collect all the daily activity from the cloud instance and create a dump file for analysis.
- D. Schedule an hourly scan of the network to check for the availability of the resource.

Answer: B

Explanation:

To guarantee real-time monitoring of a high-usage cloud resource, creating a dashboard with visualizations to filter the status of critical activities is effective. This allows for a quick visual assessment of the system's health and performance, enabling immediate action if specific events indicate potential issues with availability. References: Real-time monitoring and the use of dashboards for tracking critical cloud resources are part of the cloud management best practices covered under the CompTIA Cloud+ objectives.

NEW QUESTION 49

A company wants to use a solution that will allow for quick recovery from ransomware attacks, as well as intentional and unintentional attacks on data integrity and availability. Which of the following should the company implement that will minimize administrative overhead?

- A. Object versioning
- B. Data replication
- C. Off-site backups
- D. Volume snapshots

Answer: D

Explanation:

Implementing volume snapshots is an effective solution for quick recovery from ransomware attacks and protecting data integrity and availability. Snapshots capture the state of a storage volume at a point in time and can be used to restore data quickly with minimal administrative overhead. References: Data protection strategies like volume snapshots are discussed under cloud data management and protection in the CompTIA Cloud+ objectives.

NEW QUESTION 53

A list of CVEs was identified on a web server. The systems administrator decides to close the ports and disable weak TLS ciphers. Which of the following describes this vulnerability management stage?

- A. Scanning
- B. Identification
- C. Assessment
- D. Remediation

Answer: D

Explanation:

Closing the ports and disabling weak TLS ciphers as a response to a list of identified CVEs (Common Vulnerabilities and Exposures) describes the vulnerability management stage of 'remediation'. This stage involves taking actions to resolve vulnerabilities and mitigate potential risks. References: Vulnerability management stages, including remediation efforts, are a key aspect of the security measures discussed in CompTIA Cloud+.

NEW QUESTION 58

A cloud engineer needs to integrate a new payment processor with an existing e-commerce website. Which of the following technologies is the best fit for this integration?

- A. RPC over SSL
- B. Transactional SQL
- C. REST API over HTTPS
- D. Secure web socket

Answer: C

Explanation:

The best technology for integrating a new payment processor with an existing e-commerce website is a REST API over HTTPS. This method is widely used for web services, allowing secure communication over the internet and a standardized way for applications to communicate with each other. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Integration

NEW QUESTION 59

A cloud consultant needs to modernize a legacy application that can no longer address user demand and is expensive to maintain. Which of the following is the best migration strategy?

- A. Retain
- B. Rehost
- C. Refactor
- D. Replatform

Answer: C

Explanation:

Refactoring is the process of restructuring existing computer code without changing its external behavior. In cloud computing, it often means modifying the application to better leverage cloud-native features and services. This can address user demand and reduce maintenance costs by making the application more scalable, resilient, and manageable. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 61

Which of the following best describes a system that keeps all different versions of a software separate from each other while giving access to all of the versions?

- A. Code documentation
- B. Code control
- C. Code repository
- D. Code versioning

Answer: D

Explanation:

A system that keeps all different versions of software separate from each other while providing access to all of the versions is best described by Code versioning. Code versioning systems, such as Git, allow developers to keep track of changes, revert to previous states, and manage multiple versions of codebases. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 64

A security engineer recently discovered a vulnerability in the operating system of the company VMs. The operations team reviews the issue and decides all VMs need to be updated from version 3.4.0 to 3.4.1. Which of the following best describes the type of update that will be applied?

- A. Consistent
- B. Major
- C. Minor
- D. Ephemeral

Answer: C

Explanation:

The update from version 3.4.0 to 3.4.1 is considered a minor update, typically involving small bug fixes or security patches that do not include major feature changes or improvements. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Systems Management

NEW QUESTION 66

A customer is migrating applications to the cloud and wants to grant authorization based on the classification levels of each system. Which of the following should the customer implement to ensure authorisation to systems is granted when the user and system classification properties match? (Select two).

- A. Resource tagging
- B. Discretionary access control
- C. Multifactor authentication
- D. Role-based access control
- E. Token-based authentication
- F. Bastion host

Answer: BD

Explanation:

Discretionary Access Control (DAC) and Role-Based Access Control (RBAC) are effective methods for granting authorization based on system classification levels. DAC allows resource owners to grant access rights, making it flexible for environments with varying classification levels. RBAC assigns permissions based on roles within an organization, aligning access rights with the user's job functions and ensuring that users access only what is necessary for their role, which can be mapped to system classifications. References: CompTIA Cloud+ content covers various access control models, emphasizing the importance of implementing appropriate security measures that align with organizational policies and classification levels to ensure secure and authorized access to cloud systems.

NEW QUESTION 68

A cloud engineer is exploring options to reduce the management overhead of the servers and network. Which of the following cloud service models should the engineer implement?

- A. SaaS
- B. XaaS
- C. PaaS
- D. IaaS

Answer: C

Explanation:

Platform as a Service (PaaS) provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining the infrastructure typically associated with developing and launching an app. Adopting PaaS can significantly reduce the management overhead of servers and networks. References: CompTIA Cloud Essentials+ Certification Study Guide (Exam CLO-002) by Scott Wilson.

NEW QUESTION 71

A customer relationship management application, which is hosted in a public cloud IaaS network, is vulnerable to a remote command execution vulnerability. Which of the following is the best solution for the security engineer to implement to prevent the application from being exploited by basic attacks?

- A. IPS
- B. ACL
- C. DLP
- D. WAF

Answer: D

Explanation:

A Web Application Firewall (WAF) is the best solution to implement for a public cloud IaaS hosted customer relationship management application vulnerable to remote command execution attacks. WAFs are designed to monitor, filter, and block malicious HTTP/S traffic to and from a web application to protect against various application layer attacks, including remote command execution. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Security in the Cloud

NEW QUESTION 74

Department supervisors have requested a report that will help them understand the utilization of cloud resources, make decisions about budgeting for the following year, and reduce costs. Which of the following are the most important requisite steps to create the report? (Select two).

- A. Set the desired retention of resource logs.
- B. Configure application tracing.
- C. Integrate email alerts with ticketing software.
- D. Enable resource tagging.
- E. Configure the collection of performance/utilization logs.
- F. Configure metric threshold alerts.

Answer: DE

Explanation:

To create a report that helps understand the utilization of cloud resources, make budget decisions, and reduce costs, the most important steps are to enable resource tagging and configure the collection of performance/utilization logs. Resource tagging helps in categorizing and tracking costs by associating tags with resources, while performance/utilization logs are essential for analyzing resource usage over time. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Management

NEW QUESTION 79

An administrator needs to provide a backup solution for a cloud infrastructure that enables the resources to run from another data center in case of a outage. Connectivity to the backup data center is via a third-party, untrusted network. Which of the following is the most important feature required for this solution?

- A. Deduplication
- B. Replication
- C. Compression
- D. Encryption
- E. Labeling

Answer: D

Explanation:

When backing up data that will traverse a third-party, untrusted network, encryption is the most important feature to ensure the confidentiality and integrity of the data. Encryption will protect the data from potential interception or tampering during transit to the backup data center. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 83

A cloud engineer is deploying a cloud solution that will be used on premises with need-to-know access. Which of the following cloud deployment models best meets this requirement?

- A. Community
- B. Public
- C. Private
- D. Hybrid

Answer: C

Explanation:

A private cloud deployment model is the most appropriate when the requirement is for 'need-to-know' access, as it offers a more secure environment with resources dedicated to a single organization. It can be hosted on-premises or off-premises but is maintained on a private network, ensuring greater control over the data, security, and compliance when compared to other cloud models. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 88

Which of the following types of storage provides the greatest performance advantage for a traditional relational database?

- A. File
- B. Object
- C. Block
- D. Ephemeral

Answer: C

Explanation:

Block storage provides the greatest performance advantage for traditional relational databases due to its high performance and low-latency characteristics. Block storage allows databases to rapidly manage data in fixed-sized blocks, which is ideal for databases that require frequent read/write operations. References: Understanding different storage types and their use cases, including block storage for databases, is part of the cloud computing knowledge base covered in CompTIA Cloud+.

NEW QUESTION 92

A cloud administrator shortens the amount of time a backup runs. An executive in the company requires a guarantee that the backups can be restored with no data loss. Which of the following backup features should the administrator test for?

- A. Encryption
- B. Retention
- C. Schedule
- D. Integrity

Answer: D

Explanation:

To guarantee that backups can be restored with no data loss, the administrator should test for data integrity. This ensures that the data has not been altered during the backup process and that it can be restored to its original state. References: Backup integrity is a critical aspect of data management and protection, which falls under the best practices for backups and restoration in the CompTIA Cloud+ curriculum.

NEW QUESTION 95

A developer at a small startup company deployed some code for a new feature to its public repository. A few days later, a data breach occurred. A security team investigated the incident and found that the database was hacked. Which of the following is the most likely cause of this breach?

- A. Database core dump
- B. Hard-coded credentials
- C. Compromised deployment agent
- D. Unpatched web servers

Answer: B

Explanation:

Hard-coded credentials within code, especially when deployed in a public repository, are a common security vulnerability. If credentials such as passwords or API keys are embedded in the code, anyone with access to the repository can potentially use them to gain unauthorized access to databases or other sensitive resources. This is a likely cause of the data breach in the scenario described. References: CompTIA Security+ Guide to Network Security Fundamentals by Mark Ciampa.

NEW QUESTION 97

A user's assigned cloud credentials are locked, and the user is unable to access the project's application. The cloud administrator reviews the logs and notices several attempts to log in with the user's account were made to a different application after working hours. Which of the following is the best approach for the administrator to troubleshoot this issue?

- A. Create new credentials for the user and restrict access to the authorized application.
- B. Track the source of the log-in attempts and block the IP address of the source in the WAF
- C. Reset the user's account and implement a stronger lock-out policy.
- D. Install an IDS on the network to monitor suspicious activity

Answer: B

Explanation:

The administrator should track the source of the log-in attempts and block the IP address in the Web Application Firewall (WAF). This will prevent further unauthorized attempts from that source. It is also advisable to reset the user's account credentials as a precautionary measure. References: Incident response and addressing unauthorized access attempts, including tracking and blocking IP addresses, are security measures addressed in the CompTIA Cloud+ material.

NEW QUESTION 98

Which of the following network protocols is generally used in a NAS environment?

- A. BGP
- B. RDP
- C. TCP/IP
- D. iSCSI

Answer: C

Explanation:

The network protocol generally used in a NAS (Network Attached Storage) environment is TCP/IP (Transmission Control Protocol/Internet Protocol). NAS devices are accessed over a network rather than being directly connected to the computer, and they utilize the TCP/IP protocol to enable this network communication. References: Understanding of networking protocols, including TCP/IP in the context of NAS environments, is part of the foundational networking knowledge for cloud services in CompTIA Cloud+.

NEW QUESTION 101

A bank informs an administrator that changes must be made to backups for long-term reporting purposes. Which of the following is the most important change the administrator should make to satisfy these requirements?

- A. Location of the backups
- B. Type of the backups
- C. Retention of the backups
- D. Schedule of the backups

Answer: C

Explanation:

For long-term reporting purposes, the most critical aspect to consider is the retention period of the backups. This is because the bank will likely require access to historical data for audit, compliance, and reporting purposes. The retention policy will need to ensure that backups are kept for the required duration, which may be several years depending on regulatory and business needs. Adjusting the retention policy will help ensure that the necessary data is preserved for as long as it is

needed, without unnecessary data accumulation that could lead to higher costs and management complexity. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 106

A cloud security analyst is concerned about security vulnerabilities in publicly available container images. Which of the following is the most appropriate action for the analyst to recommend?

- A. Using CIS-hardened images
- B. Using watermarked images
- C. Using digitally signed images
- D. Using images that have an application firewall

Answer: A

NEW QUESTION 109

A cloud engineer is reviewing a disaster recovery plan that includes the following requirements:

- System state, files, and configurations must be backed up on a weekly basis.
- The system state, file, and configuration backups must be tested annually.

Which of the following backup methods should the engineer implement for the first week the plan is executed?

- A. Differential
- B. Incremental
- C. Snapshot
- D. Full

Answer: D

Explanation:

A full backup method should be implemented for the first week the disaster recovery plan is executed. This will ensure that a complete copy of the system state, files, and configurations are backed up. Subsequent backups can be differential or incremental as per the plan. References: Backup methodologies, including the importance of full backups, are part of the data management strategies in cloud computing covered in the CompTIA Cloud+ certification.

NEW QUESTION 112

A cloud engineer hardened the WAF for a company that operates exclusively in North America. The engineer did not make changes to any ports, and all protected applications have continued to function as expected. Which of the following configuration changes did the engineer most likely apply?

- A. The engineer implemented MFA to access the WAF configurations.
- B. The engineer blocked all traffic originating outside the region.
- C. The engineer installed the latest security patches on the WAF.
- D. The engineer completed an upgrade from TLS version 1.1 to version 1.3.

Answer: B

Explanation:

Given that the WAF was hardened without changing any ports and all protected applications continued to function as expected, it is most likely that the engineer blocked all traffic originating outside of North America, which is the company's operating region. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Security Best Practices

NEW QUESTION 115

Which of the following service options would provide the best availability for critical applications in the event of a disaster?

- A. Edge computing
- B. Cloud bursting
- C. Availability zones
- D. Multicloud tenancy

Answer: C

Explanation:

Availability zones provide the best availability for critical applications in the event of a disaster. They are distinct locations within a cloud region that are engineered to be isolated from failures in other availability zones, thus providing redundancy and failover capabilities, which is essential for maintaining high availability of critical applications. References: The concept of availability zones and their importance in disaster recovery and high availability is covered under the domain of Management and Technical Operations in the CompTIA Cloud+ objectives.

NEW QUESTION 119

Which of the following cloud-native architecture designs is the most easily maintained, decentralized, and decoupled?

- A. Monolithic
- B. Hybrid cloud
- C. Mainframe
- D. Microservices

Answer: D

Explanation:

Microservices architecture is a design approach to build a single application as a suite of small services, each running in its own process and communicating with lightweight mechanisms, often an HTTP resource API. This design is decentralized and each service is fully decoupled, allowing for easier maintenance and

scaling. Each microservice is built around a specific business capability and can be deployed independently, unlike monolithic architectures that are typically centralized and less flexible. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Designing a Cloud Environment

NEW QUESTION 120

A government agency in the public sector is considering a migration from on premises to the cloud. Which of the following are the most important considerations for this cloud migration? (Select two).

- A. Compliance
- B. IaaS v
- C. SaaS
- D. Firewall capabilities
- E. Regulatory
- F. Implementation timeline
- G. Service availability

Answer: AD

Explanation:

For a government agency considering cloud migration, compliance and regulatory considerations are of utmost importance. The agency must ensure that the migration aligns with legal requirements, industry standards, and government regulations specific to the public sector. References: Compliance and regulatory considerations are crucial factors in the cloud migration process for government entities, as emphasized in the CompTIA Cloud+ certification.

NEW QUESTION 122

The company's IDS has reported an anomaly. The cloud engineer remotely accesses the cloud instance, runs a command, and receives the following information:

```

UID    PID    PPID   CMD
0      987    1      sshd /usr/sbin/sshd -D [listener] 0 of 10-100
        startups
0      915    915    sshd: su seceng
0      45078 987    sshd: seceng [priv]
1000   45418 45078  sshd: seceng @pts/0
1000   45419 45418  -bash
1000   45440 45419  ps -elf
0      50596 1      /usr/sbin/apache2 -k start
65535 50597 50596  /usr/sbin/apache2 -k start
0      50612 50597  /var/www/command.py
    
```

Which of the following is the most likely root cause of this anomaly?

- A. Privilege escalation
- B. Leaked credentials
- C. Cryptojacking
- D. Defaced website

Answer: A

Explanation:

The output from the 'ps' command indicates there is a process running under the UID (User ID) of 0, which is the root user, and the command that was run is '/var/www/command.py'. Given that the normal Apache processes are running under their own UID (65535), this suggests that a command was executed with root privileges that typically should not have such high-level access. This is a strong indicator of privilege escalation, where an unauthorized user or process gains elevated access to resources that are normally protected from an application or user. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 125

A cloud architect attempts to modify a protected branch but is unable to do so. The architect receives an error indicating the action cannot be completed. Which of the following should the architect try instead?"

- A. Adding a new remote
- B. Creating a pull request
- C. Merging the branch
- D. Rebasing the branch

Answer: B

Explanation:

When unable to modify a protected branch directly, the recommended approach is to create a pull request. This allows changes to be reviewed and approved by authorized personnel before being merged into the protected branch, maintaining code integrity and compliance with the project's workflow and policies.

NEW QUESTION 129

A cloud engineer is designing a high-performance computing cluster for proprietary software. The software requires low network latency and high throughput between cluster nodes.

Which of the following would have the greatest impact on latency and throughput when designing the HPC infrastructure?

- A. Node placement
- B. Node size
- C. Node NIC
- D. Node OS

Answer: A

Explanation:

Node placement is critical in high-performance computing (HPC) clusters where low network latency and high throughput are required. Proper placement of nodes within the network infrastructure, including proximity to each other and to key network components, can significantly reduce latency and increase throughput. Ensuring that nodes are physically close and well-connected can facilitate faster data transfer rates between them. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 134

Which of the following describes what CRUD is typically used for?

- A. Relational databases
- B. Time series databases
- C. Graph databases
- D. NoSQL databases

Answer: A

Explanation:

CRUD stands for Create, Read, Update, Delete, and it is most commonly used for interacting with relational databases. These operations form the basis of persistent storage manipulation in most applications that use a database to store data. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 137

An organization's critical data was exfiltrated from a computer system in a cyberattack. A cloud analyst wants to identify the root cause and is reviewing the following security logs of a software web application:

```
"2021/12/18 09:33:12" "10. 34. 32.18" "104. 224. 123. 119" "POST / login.php?u=administrator&p=or%201%20=1"
"2021/12/18 09:33:13" "10.34. 32.18" "104. 224. 123.119" "POST /login.php?u=administrator&p=%27%0A"
"2021/12/18 09:33:14" "10. 34. 32.18" "104. 224. 123. 119" "POST /login.php?u=administrator&p=%26"
"2021/12/18 09:33:17" "10.34. 32.18" "104. 224. 123.119" "POST / login.php?u=administrator&p=%3B"
"2021/12/18 09:33:12" "10.34. 32. 18" "104. 224. 123. 119" "POST / login.php?u=admin&p=or%201%20=1"
"2021/12/18 09:33:19" "10.34.32.18" "104. 224. 123.119" "POST / login.php?u=admin&p=%27%0A"
"2021/12/18 09:33:21" "10. 34. 32.18" "104.224. 123.119" "POST / login.php?u=admin&p=%26"
"2021/12/18 09:33:23" "10. 34. 32.18" "104. 224. 123.119" "POST / login.php?u=admin&p=%3B"
```

Which of the following types of attacks occurred?

- A. SQL injection
- B. Cross-site scripting
- C. Reuse of leaked credentials
- D. Privilege escalation

Answer: A

Explanation:

The security logs of the software web application show patterns that are typical of an SQL injection attack. This is evidenced by the inclusion of SQL syntax in the user input fields in an attempt to manipulate the database. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Security Threats

NEW QUESTION 140

Which of the following is an auditing procedure that ensures service providers securely manage the data to protect the interests of the organization and the privacy of its clients?

- A. CIS
- B. ITIL
- C. SOC2
- D. ISO 27001

Answer: C

Explanation:

SOC2 (Service Organization Control 2) is an auditing procedure that ensures service providers securely manage data to protect the interests of an organization and the privacy of its clients. SOC2 is specifically designed for service providers storing customer data in the cloud, making it pertinent for data management and

privacy. References: SOC2 and its role in auditing and ensuring secure data management by cloud service providers are part of the compliance standards and regulations included in the CompTIA Cloud+ certification material.

NEW QUESTION 143

An organization's internal security team mandated that public cloud resources must be accessible only by a corporate VPN and not by direct public internet access. Which of the following would achieve this objective?

- A. WAF
- B. ACL
- C. VPC
- D. SSH

Answer: C

Explanation:

A Virtual Private Cloud (VPC) allows users to create a secluded section of the public cloud where resources can be launched in a defined virtual network. This enables an organization to have a section of the cloud that is secured and isolated from the public internet, thus, access to public cloud resources can be restricted to only a corporate VPN. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Security

NEW QUESTION 145

Which of the following provides secure, private communication between cloud environments without provisioning additional hardware or appliances?

- A. VPN
- B. VPC peering
- C. BGP
- D. Transit gateway

Answer: B

Explanation:

VPC peering provides secure, private communication between cloud environments without the need for provisioning additional hardware or appliances. It allows direct network connectivity between two Virtual Private Clouds (VPCs), enabling resources in either VPC to communicate with each other using private IP addresses. References: Cloud networking options such as VPC peering and its benefits are included in the networking concepts of cloud environments in the CompTIA Cloud+ certification.

NEW QUESTION 149

A company's main web application is no longer accessible via the internet. The cloud administrator investigates and discovers the application is accessible locally and only via an IP address. Which of the following was misconfigured?

- A. IP
- B. DHCP
- C. NAT
- D. DNS

Answer: D

Explanation:

When a web application is accessible locally via an IP address but not via the internet, the issue likely lies with the Domain Name System (DNS). DNS is responsible for translating domain names into IP addresses. A misconfiguration in DNS records or failure in DNS resolution can prevent users from accessing the application through its domain name, even though the application itself is running and accessible via its direct IP address. References: In the CompTIA Cloud+ curriculum, understanding cloud concepts and networking fundamentals, including DNS, is crucial for troubleshooting and ensuring applications are accessible and perform optimally in cloud environments.

NEW QUESTION 154

Which of the following industry standards mentions that credit card data must not be exchanged or stored in cleartext?

- A. CSA
- B. GDPR
- C. SOC2
- D. PCI-DSS

Answer: D

Explanation:

The Payment Card Industry Data Security Standard (PCI-DSS) is the industry standard that mandates that credit card data must not be stored or transmitted in cleartext. It includes requirements for encryption, access control, and other security measures to protect cardholder data. References: Official PCI Security Standards Council Site.

NEW QUESTION 155

A security team recently hired multiple interns who all need the same level of access. Which of the following controls should the security team implement to provide access to the cloud environment with the least amount of overhead?

- A. MFA
- B. Discretionary access
- C. Local user access
- D. Group-based access control

Answer:

D

Explanation:

Implementing group-based access control is the most efficient way to provide access to multiple interns who require the same level of access. This method allows the security team to assign permissions to a group rather than to individual user accounts, thereby reducing the administrative overhead involved in managing access rights for each intern individually. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg

NEW QUESTION 158

A developer is testing code that will be used to deploy a web farm in a public cloud. The main code block is a function to create a load balancer and a loop to create 1,000 web servers, as shown below:

```
my_load_balancer()
for x in range(1000):
    my_web_server()
```

The developer runs the code against the company's cloud account and observes that the load balancer is successfully created, but only 100 web servers have been created. Which of the following should the developer do to fix this issue?

- A. Request an increase of Instance quota.
- B. Run the code multiple times until all servers are created.
- C. Check the my_web_server () function to ensure it is using the right credentials.
- D. Place the my_load_balancer () function after the loop.

Answer: A

Explanation:

The developer should request an increase of the instance quota from the cloud provider. Cloud services often have a limit on the number of instances that can be created, which is known as an instance quota. If the load balancer is successfully created but the number of web servers is limited to 100, it suggests that the quota has been reached. Increasing the quota will allow the creation of additional web server instances up to the desired number. References: The scenario reflects an understanding of cloud resource management and limitations, which is a part of the CompTIA Cloud+ curriculum, specifically under the domain of Management and Technical Operations.

NEW QUESTION 163

A company's website suddenly crashed. A cloud engineer investigates the following logs:

```
webbapp_access.log
...
2023-04-03 16:45:00 GET /home?x=213
2023-04-03 16:45:01 GET /home?x=6544
2023-04-03 16:45:02 GET /home?x=52455
2023-04-03 16:45:03 GET /home?x=56
2023-04-03 16:45:04 GET /home?x=7895
...
2023-04-03 16:47:00 GET /home?x=3986 502
2023-04-03 16:47:01 GET /home?x=2461 502
```

Which of the following is the most likely cause of the issue?

- A. SQL injection
- B. Cross-site scripting
- C. Leaked credentials
- D. DDoS

Answer: D

Explanation:

The logs indicate a sudden surge in access requests to the website's homepage, followed by 502 errors, which are indicative of server overload or failure to handle incoming requests. This pattern is typical of a Distributed Denial of Service (DDoS) attack, where multiple compromised systems flood the target with traffic, exceeding its capacity to handle requests, leading to service disruption.

NEW QUESTION 168

A security analyst reviews the daily logs and notices the following suspicious activity:

| | |
|----------|---|
| Host | NA/US/John Smith |
| IP | 10.150.71.151 |
| Activity | A powershell process executed compressed, encoded command line content. |

The analyst investigates the firewall logs and identifies the following:

| | |
|------------------|-----------------------------------|
| Operating system | Kali Linux |
| CPU | x64 |
| Filesystem | ext4 |
| User | John Smith |
| Category | Compromised - Unauthorized Access |
| Domain | NA/US |
| IP | 201.101.25.121 (External) |
| Port | 4444 |
| Connection type | Inbound Connection |

Which of the following steps should the security analyst take next to resolve this issue? (Select two).

- A. Submit an IT support ticket and request Kali Linux be uninstalled from John Smith's computer
- B. Block all inbound connections on port 4444 and block the IP address 201.101.25.121.
- C. Contact John Smith and request the Ethernet cable attached to the desktop be unplugged
- D. Check the running processes to confirm if a backdoor connection has been established.
- E. Upgrade the Windows x64 operating system on John Smith's computer to the latest version.
- F. Block all outbound connections from the IP address 10.150.71.151.

Answer: BD

Explanation:

Given the suspicious activity and Kali Linux's association with penetration testing and hacking tools, the security analyst should block all inbound connections on port 4444, as it is commonly used for malicious purposes, and block the IP address that's potentially the source of the intrusion. Additionally, checking the running processes on John Smith's computer is crucial to determine if a backdoor or unauthorized connection has been established. References: Incident response and threat mitigation steps such as these are part of the security protocols discussed in the CompTIA Cloud+ certification.

NEW QUESTION 170

A developer is building a new application version using a CI/CD pipeline. The developer receives the following error message log when the build fails:

```
Traceback (most recent call last):
File "app.py", line 4, in <module>
import requests
ModuleNotFoundError: No module named 'requests'
```

Which of the following is the most likely cause of this failure?

- A. Incorrect version
- B. Test case failure
- C. Broken build pipeline
- D. Dependency issue

Answer: D

Explanation:

The error message indicates that the 'requests' module, which is a dependency, is not found. The failure is most likely due to the 'requests' library not being installed or not included in the environment where the application is running. References: Dependency management is a crucial part of maintaining a CI/CD pipeline, a topic included in the CompTIA Cloud+ examination objectives.

NEW QUESTION 174

Users report being unable to access an application that uses TLS 1.1. The users are able to access other applications on the internet. Which of the following is the most likely reason for this issue?

- A. The security team modified user permissions.
- B. Changes were made on the web server to address vulnerabilities.
- C. Privileged access was implemented.
- D. The firewall was modified.

Answer: B

Explanation:

If users are unable to access an application that uses TLS 1.1 but can access other internet applications, it is likely that changes were made on the web server to address vulnerabilities, such as disabling outdated and less secure protocols like TLS 1.1. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Security

NEW QUESTION 175

A healthcare organization must follow strict compliance requirements to ensure that PII is not leaked. The cloud administrator needs to ensure the cloud email system can support this requirement Which of the following should the organization enable?

- A. IPS
- B. OLP
- C. ACL
- D. WAF

Answer: B

Explanation:

To ensure that Personally Identifiable Information (PII) is not leaked and to comply with strict healthcare regulations, the organization should enable Data Loss Prevention (DLP). DLP systems are designed to detect and prevent unauthorized access or sharing of sensitive data, making them ideal for securing PII in cloud email systems and ensuring compliance with healthcare industry standards. References: CompTIA Cloud+ content covers governance, risk, compliance, and security aspects of cloud computing, highlighting the role of DLP in safeguarding sensitive information and maintaining compliance in regulated industries like healthcare.

NEW QUESTION 176

Which of the following AI/ML technologies consumes text input to discern tone?

- A. Text recognition
- B. Computer vision
- C. Visual recognition
- D. Sentiment analysis

Answer: D

Explanation:

Sentiment analysis is an AI/ML technology that processes text to determine the tone. It helps in understanding the sentiments behind the words by analyzing the text input, which can be positive, negative, or neutral. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Technologies and Applications

NEW QUESTION 179

SIMULATION

The QA team is testing a newly implemented clinical trial management (CTM) SaaS application that uses a business intelligence application for reporting. The UAT users were

instructed to use HTTP and HTTPS. Refer to the application dataflow:

1A- The end user accesses the application through a web browser to enter and view clinical data.

2A- The CTM application server reads/writes data to/from the database server.

1B- The end user accesses the application through a web browser to run reports on clinical data.

2B- The CTM application server makes a SOAP call on a non-privileged port to the BI application server.

3B- The BI application server gets the data from the database server and presents it to the CTM application server.

When UAT users try to access the application using `https://ctm.app.com` or `http://ctm.app.com`, they get a message stating: "??Browser cannot display the webpage.??". The QA team has raised a ticket to troubleshoot the issue.

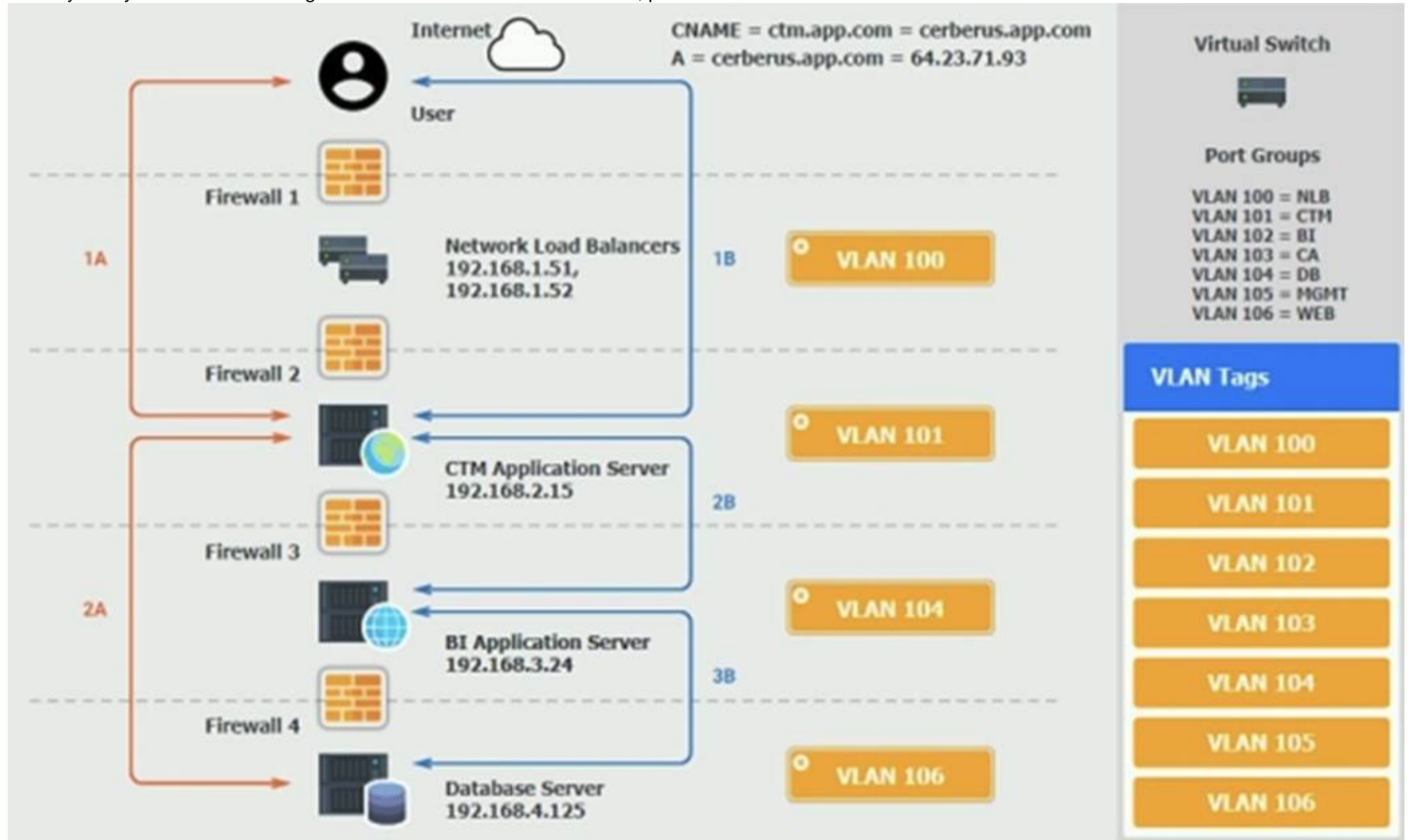
INSTRUCTIONS

You are a cloud engineer who is tasked with reviewing the firewall rules as well as virtual network settings.

You should ensure the firewall rules are allowing only the traffic based on the dataflow. You have already verified the external DNS resolution and NAT are working.

Verify and appropriately configure the VLAN assignments and ACLs. Drag and drop the appropriate VLANs to each tier from the VLAN Tags table. Click on each Firewall to change ACLs as needed.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



Internet
 CNAME = ctm.app.com = cerberus.app.com
 A = cerberus.app.com = 64.23.71.93

User

Virtual Switch

Port Groups

VLAN 100 = NLB
 VLAN 101 = CTM
 VLAN 102 = BI
 VLAN 103 = CA
 VLAN 104 = DB
 VLAN 105 = HGHT
 VLAN 106 = WEB

Firewall 1

| Action | Source | Destination | Protocol | Port |
|--------|---------|--------------|----------|------|
| ALLOW | 0.0.0.0 | 192.168.1.51 | TCP | 443 |
| ALLOW | 0.0.0.0 | 192.168.1.52 | TCP | 443 |
| ALLOW | 0.0.0.0 | 192.168.1.51 | TCP | 80 |
| ALLOW | 0.0.0.0 | 192.168.1.52 | TCP | 80 |
| DENY | 0.0.0.0 | 0.0.0.0 | ANY | ANY |

Application Server 192.168.3.24

Database Server 192.168.4.125

VLAN 105

VLAN Tags

VLAN 100
 VLAN 101
 VLAN 102
 VLAN 103
 VLAN 104
 VLAN 105
 VLAN 106

Internet
 CNAME = ctm.app.com = cerberus.app.com
 A = cerberus.app.com = 64.23.71.93

Virtual Switch

Port Groups

VLAN 100 = NLB
 VLAN 101 = CTM
 VLAN 102 = BI
 VLAN 103 = CA
 VLAN 104 = DB
 VLAN 105 = HGHT
 VLAN 106 = WEB

Firewall 2

| Action | Source | Destination | Protocol | Port |
|--------|---------------|---|----------|------|
| ALLOW | 192.168.1.51 | 192.168.2.15 | TCP | 88 |
| DENY | 192.168.1.52 | 0.0.0.0 127.0.0.1 64.23.71.93 192.168.1.51 192.168.1.52 192.168.2.15 | TCP | 80 |
| ALLOW | 0.0.0.0 | 192.168.2.24 | UDP | 88 |
| DENY | 127.0.0.1 | 192.168.2.24 | UDP | 1533 |
| ALLOW | 64.23.71.93 | 192.168.3.24 | UDP | 9400 |
| DENY | 192.168.1.51 | 192.168.4.125 | ANY | ANY |
| DENY | 192.168.2.15 | 0.0.0.0 | TCP | 443 |
| DENY | 192.168.2.24 | 0.0.0.0 | ANY | ANY |
| DENY | 192.168.3.24 | 0.0.0.0 | ANY | ANY |
| DENY | 192.168.4.125 | 0.0.0.0 | ANY | ANY |

Database Server 192.168.4.125

VLAN 105

VLAN Tags

VLAN 100
 VLAN 101
 VLAN 102
 VLAN 103
 VLAN 104
 VLAN 105
 VLAN 106



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

On firewall 3, change the DENY 0.0.0.0 entry to rule 3 not rule 1.

NEW QUESTION 180

Five thousand employees always access the company's public cloud-hosted web application on a daily basis during the same time frame. Some users have been

reporting performance issues while attempting to connect to the web application Which of the following is the best configuration approach to resolve this issue?

- A. Scale vertically based on a trend.
- B. Scale horizontally based on a schedule
- C. Scale vertically based on a load.
- D. Scale horizontally based on an event

Answer: B

Explanation:

For a web application accessed by a large number of employees daily during the same time frame, the best configuration approach to resolve performance issues is to scale horizontally based on a schedule. This means adding more server instances to handle the load during known peak times. References: Cloud resource scaling strategies, including scheduled horizontal scaling, are discussed in the CompTIA Cloud+ curriculum under cloud management and optimization.

NEW QUESTION 184

A cloud engineer is reviewing the following Dockerfile to deploy a Python web application:

```
FROM cgr.dev/chainguard/python:latest
WORKDIR /myapp
COPY main.py ./
ENTRYPOINT ["python", "/myapp/main.py"]
```

Which of the following changes should the engineer make to the file to improve container security?

- A. Add the instruction "USER nonroot.
- B. Change the version from latest to 3.11.
- C. Remove the ENTRYPOINT instruction.
- D. Ensure myapp/main.py is owned by root.

Answer: A

Explanation:

To improve container security, the engineer should add the instruction "USER nonroot" to the Dockerfile. This change ensures that the container does not run as the root user, which reduces the risk of privilege escalation attacks. Running containers as a non-root user is a best practice for enhancing security in containerized environments. References: CompTIA Cloud+ content includes security concerns, measures, and concepts for cloud operations, highlighting container security best practices such as running containers with least privilege to mitigate security risks.

NEW QUESTION 186

Which of the following is true of SSDs?

- A. SSDs do not have self-encrypting capabilities.
- B. SSDs have small storage capacities.
- C. SSDs can be used for high-IOP applications.
- D. SSDs are used mostly in cold storage.

Answer: C

Explanation:

SSDs (Solid State Drives) are known for their high performance and can handle a high number of input/output operations per second (IOPS). This makes them ideal for applications and workloads that require rapid access to storage, such as databases and high-performance computing applications. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Storage Options

NEW QUESTION 188

Which of the following vulnerability management concepts is best defined as the process of discovering vulnerabilities?

- A. Scanning
- B. Assessment
- C. Remediation
- D. Identification

Answer: D

Explanation:

In vulnerability management, 'Identification' is the concept best defined as the process of discovering vulnerabilities. This step is crucial as it involves detecting vulnerabilities in systems, software, and networks, which is the first step in the vulnerability management process before moving on to assessment, remediation, and reporting.

NEW QUESTION 190

A cloud service provider requires users to migrate to a new type of VM within three months. Which of the following is the best justification for this requirement?

- A. Security flaws need to be patched.
- B. Updates could affect the current state of the VMs.
- C. The cloud provider will be performing maintenance of the infrastructure.

D. The equipment is reaching end of life and end of support.

Answer: D

Explanation:

The best justification for a cloud service provider requiring users to migrate to a new type of VM within a specific time frame is that the equipment is reaching end of life and end of support (EOL/EOS). This means that the older type of VM will no longer receive updates or support, which could include important security patches, so it is necessary to move to newer VM types to maintain security and performance. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 191

Two CVEs are discovered on servers in the company's public cloud virtual network. The CVEs are listed as having an attack vector value of network and CVSS score of 9.0. Which of the following actions would be the best way to mitigate the vulnerabilities?

- A. Patching the operating systems
- B. Upgrading the operating systems to the latest beta
- C. Encrypting the operating system disks
- D. Disabling unnecessary open ports

Answer: A

Explanation:

For vulnerabilities with a high CVSS score and a network attack vector, the most effective and direct mitigation action is to patch the operating systems. Patching addresses the specific vulnerabilities that have been identified and helps to secure the servers against the known exploits that could take advantage of these CVEs. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 192

A cloud engineer wants to run a script that increases the volume storage size if it is below 100GB. Which of the following should the engineer run?

- A.

```
if [ VOL = describe_volume_size(get_volume(VM)) < 100]
    resize_size(VOL)
else
    echo "$vol is already larger than 100GB"
```
- B.

```
if [ VOL = describe_volume_size(get_volume(VM)) + 100]
    resize_size(VOL)
else
    echo "$vol is already larger than 100GB"
```
- C.

```
if [ VOL = describe_volume_size(get_volume(VM)) != 100]
    resize_size(VOL)
else
    echo "$vol is already larger than 100GB"
```
- D.

```
if [ VOL = describe_volume_size(get_volume(VM)) == 100]
    resize_size(VOL)
else
    echo "$vol is already larger than 100GB"
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: A

Explanation:

The correct script is Option A, which uses a conditional test to check if the volume size is less than 100GB. If it is, then it performs a resize operation; otherwise, it outputs a message indicating the volume is already the desired size. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Automation

NEW QUESTION 196

A security analyst confirms a zero-day vulnerability was exploited by hackers who gained access to confidential customer data and installed ransomware on the server. Which of the following steps should the security analyst take? (Select two).

- A. Contact the customers to inform them about the data breach.
- B. Contact the hackers to negotiate payment to unlock the server.

- C. Send a global communication to inform all impacted users.
- D. Inform the management and legal teams about the data breach
- E. Delete confidential data used on other servers that might be compromised.
- F. Modify the firewall rules to block the IP addresses and update the ports.

Answer: AD

Explanation:

After a zero-day exploit resulting in a data breach and ransomware installation, it is critical to inform affected customers about the breach and the potential impact on their data. Additionally, the management and legal teams should be notified to handle the situation in compliance with regulatory requirements and to coordinate an appropriate response. References: Handling security incidents and communication strategies after a data breach are crucial elements of the governance and risk compliance domains in CompTIA Cloud+.

NEW QUESTION 201

A company wants to build its new platform using a public cloud. The workload requirements include the following:

- Implementation of custom CIS compliance
- Patch for vulnerabilities within 24 hours
- Warrant at least 1,800 IOPS per volume Which of the following meets the requirements?

- A. SaaS
- B. IaaS
- C. FaaS
- D. PaaS

Answer: B

Explanation:

Infrastructure as a Service (IaaS) provides the most flexibility among cloud service models, allowing for the implementation of custom security and compliance standards, such as CIS compliance. IaaS environments offer control over the infrastructure, enabling patch management within specific time frames. Additionally, IaaS providers typically offer configurable storage options, including the ability to specify IOPS (Input/Output Operations Per Second) per volume to meet performance requirements.

NEW QUESTION 204

A cloud engineer is developing an operating expense report that will be used to purchase various cloud billing models for virtual machine instances. The cloud billing model must meet the following requirements:

- The instance cannot be ephemeral.
- The minimum life cycle of the instance is expected to be five years.
- The software license is charged per physical CPU count.

Which of the following models would best meet these requirements?

- A. Dedicated host
- B. Spot instance
- C. Pay-as-you-go
- D. Reserved resources

Answer: D

Explanation:

Reserved resources, or Reserved Instances, are ideal for workloads with predictable usage and a long-term commitment, such as a minimum lifecycle of five years. This model allows for significant cost savings compared to on-demand pricing, and the instance is not ephemeral, meaning it persists and is dedicated to the user for the duration of the reservation. The licensing charged per physical CPU count aligns with dedicated host or reserved instance models, but the long-term commitment points more towards reserved resources.

NEW QUESTION 208

A company implements a web farm with 100 servers behind an application load balancer. During scaling events, new web servers that are placed in service have not loaded all their modules, which causes some requests to the web farm to fail. Which of the following should the cloud engineer implement to address the scaling issue?

- A. Instance warm-up
- B. Scheduled scaling
- C. Event-based scaling
- D. Load balancer passthrough

Answer: A

Explanation:

Implementing an instance warm-up period can address the issue of new web servers not having all modules loaded during scaling events. This warm-up period allows new instances to fully initialize and start serving traffic only when they are ready, preventing failed requests. References: Scaling strategies and their operational impact, including the concept of instance warm-up, are covered under cloud infrastructure management in the CompTIA Cloud+ curriculum.

NEW QUESTION 210

A cloud administrator deploys new VMs in a cluster and discovers they are getting IP addresses in the range of 169.254.0.0/16. Which of the following is the most likely cause?

- A. The scope has been exhausted.
- B. The network is overlapping.
- C. The VLAN is missing.
- D. The NAT is improperly configured.

Answer: A

Explanation:

IP addresses in the range of 169.254.0.0/16 are Automatic Private IP Addressing (APIPA) addresses, which devices assign themselves when they are configured to obtain an IP automatically but are unable to reach a DHCP server to get one. The most likely cause for VMs in a cluster to receive APIPA addresses is the exhaustion of the DHCP scope, meaning there are no more available IP addresses in the DHCP range to be assigned.

NEW QUESTION 215

A cloud engineer needs to migrate an application from on premises to a public cloud. Due to timing constraints, the application cannot be changed prior to migration. Which of the following migration strategies is best approach for this use case?

- A. Retire
- B. Rearchitect
- C. Refactor
- D. Rehost

Answer: D

Explanation:

Rehosting, often referred to as "lift-and-shift," is the process of migrating an application or workload to the cloud without modifying it. This approach is suitable when there are timing constraints that prevent making changes to the application prior to migration. Rehosting can be the quickest migration strategy since it involves moving the existing applications to the cloud with minimal changes.

References: CompTIA Cloud+ resources and cloud migration strategies

NEW QUESTION 219

A company uses containers to implement a web application. The development team completed internal testing of a new feature and is ready to move the feature to the production environment. Which of the following deployment models would best meet the company's needs while minimizing cost and targeting a specific subset of its users?

- A. Canary
- B. Blue-green
- C. Rolling
- D. In-place

Answer: A

Explanation:

The canary deployment model is an approach where a new feature or service is rolled out to a small subset of users before being deployed widely. This method allows the company to test the impact of the new feature in the production environment with a limited scope, minimizing risk and potential cost implications if issues arise. This approach contrasts with blue-green deployments, which involve switching between two identical environments; rolling deployments, which gradually update all instances; and in-place deployments, which update the current environment. The canary model is particularly suited for targeting specific user groups and gathering feedback before a full rollout.

NEW QUESTION 220

A social networking company operates globally. Some users from Brazil and Argentina are reporting the following error: website address was not found. Which of the following is the most likely cause of this outage?

- A. Client DNS misconfiguration
- B. Regional DNS provider outage
- C. DNS server misconfiguration
- D. DNS propagation issues

Answer: B

Explanation:

The most likely cause of the outage, with users from specific regions like Brazil and Argentina reporting an error that the website address was not found, is a regional DNS provider outage. This type of outage would affect users in particular areas, preventing domain name resolution and leading to the reported error. References: Regional outages and their impact on service availability are discussed within the Cloud Concepts domain, which includes understanding the importance of DNS in cloud services, as per the CompTIA Cloud+ objectives.

NEW QUESTION 223

Once a change has been made to templates, which of the following commands should a cloud architect use next to deploy an IaaS platform?

- A. git pull
- B. git fetch
- C. git commit
- D. git push

Answer: D

Explanation:

After making changes to templates, a cloud architect should use the git push command to deploy an IaaS platform. This command is used to upload the local repository content to a remote repository, making the new or changed templates available for the next deployment. References: Version control practices and commands, such as using git for IaaS template management, are covered under the best practices for cloud deployments in the CompTIA Cloud+ certification.

NEW QUESTION 224

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