

CompTIA

Exam Questions CV0-004

CompTIA Cloud+



NEW QUESTION 1

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 2

A banking firm's cloud server will be decommissioned after a successful proof of concept using mirrored data. Which of the following is the best action to take regarding the storage used on the decommissioned server?

- A. Keep it temporarily.
- B. Archive it.
- C. Delete it.
- D. Retain it permanently

Answer: B

Explanation:

When a cloud server is decommissioned after a proof of concept, the best action to take regarding the storage used on the server is to archive it. Archiving ensures that the data is kept in a less accessible but secure storage service, which may be required for regulatory or compliance reasons, especially for a banking firm. References: Data management strategies, including archiving decommissioned data, are covered in the CompTIA Cloud+ examination objectives, particularly within the domain of management and technical operations.

NEW QUESTION 3

A cloud solutions architect needs to have consistency between production, staging, and development environments. Which of the following options will best achieve this goal?

- A. Using Terraform templates with environment variables
- B. Using Grafana in each environment
- C. Using the ELK stack in each environment
- D. Using Jenkins agents in different environments

Answer: A

Explanation:

Terraform templates with environment variables can ensure consistency across different environments such as production, staging, and development. Terraform allows for infrastructure as code, which can be used to define and maintain infrastructure with consistency. References: CompTIA Cloud+ Certification Study Guide (Exam CV0-004) by Scott Wilson and Eric Vanderburg.

NEW QUESTION 4

A cross-site request forgery vulnerability exploited a web application that was hosted in a public IaaS network. A security engineer determined that deploying a WAF in blocking mode at a CDN would prevent the application from being exploited again. However, a week after implementing the WAF, the application was exploited again. Which of the following should the security engineer do to make the WAF control effective?

- A. Configure the DDoS protection on the CDN.
- B. Install endpoint protection software on the VMs
- C. Add an ACL to the VM subnet.
- D. Deploy an IDS on the IaaS network.

Answer: C

Explanation:

After a WAF deployment fails to prevent an exploit, adding an Access Control List (ACL) to the Virtual Machine (VM) subnet can be an effective control. ACLs provide an additional layer of security by explicitly defining which traffic can or cannot enter a network segment. By setting granular rules based on IP addresses, protocols, and ports, ACLs help to restrict access to resources, thereby mitigating potential exploits and enhancing the security of the IaaS network. References: CompTIA Cloud+ materials cover governance, risk, compliance, and security for the cloud, including the implementation of network security controls like ACLs, to protect cloud environments from unauthorized access and potential security threats.

NEW QUESTION 5

A cloud engineer is running a latency-sensitive workload that must be resilient and highly available across multiple regions. Which of the following concepts best addresses these requirements?

- A. Cloning
- B. Clustering
- C. Hardware passthrough
- D. Stand-alone container

Answer: B

Explanation:

Clustering refers to the use of multiple servers/computers to form what appears to be a single system. This concept is key for achieving high availability and resilience, especially for latency-sensitive workloads. By distributing the workload across a cluster that spans multiple regions, the system can continue to operate even if one or more nodes fail, thus maintaining performance and availability. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 6

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 7

Which of the following is used to deliver code quickly and efficiently across the development, test, and production environments?

- A. Snapshot
- B. Container image
- C. Serverless function
- D. VM template

Answer: B

Explanation:

A container image is used to deliver code quickly and efficiently across the development, test, and production environments. Container images are lightweight, standalone, executable software packages that include everything needed to run a piece of software, including the code, runtime, system tools, libraries, and settings. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Deployment Methods

NEW QUESTION 8

An organization wants to ensure its data is protected in the event of a natural disaster. To support this effort, the company has rented a colocation space in another part of the country. Which of the following disaster recovery practices can be used to best protect the data?

- A. On-site
- B. Replication
- C. Retention
- D. Off-site

Answer: D

Explanation:

For an organization looking to protect its data in the event of a natural disaster, the best disaster recovery practice would be off-site replication. By renting a colocation space in another part of the country, the company can maintain copies of their data and critical systems in a geographically separate location, ensuring they are not affected by the same disaster. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Disaster Recovery

NEW QUESTION 9

Servers in the hot site are clustered with the main site.

- A. Network traffic is balanced between the main site and hot site servers.
- B. Offline server backups are replicated hourly from the main site.
- C. All servers are replicated from the main site in an online status.
- D. Which of the following best describes a characteristic of a hot site?

Answer: C

Explanation:

When servers in a hot site are clustered with the main site, it indicates that all servers are replicated from the main site in an online status. This means that the hot site maintains a live, real-time copy of data and applications, ensuring immediate availability in the event of a failure at the main site. Unlike options A and B, which describe load balancing and backup strategies respectively, clustering with a hot site as described in option C ensures that the hot site can take over with minimal downtime, maintaining business continuity.

References: CompTIA Cloud+ CV0-004 Study Guide and Official CompTIA Content

NEW QUESTION 10

A company experienced a data leak through its website. A security engineer, who is investigating the issue, runs a vulnerability scan against the website and receives the following output:

```
Nmap scan report for www.example.com (93.184.216.34)
Host is up (0.020s latency).
```

```
PORT STATE SERVICE
21/tcp open  ftp
443/tcp open  ssl/https
1119/tcp closed bnetgame
1935/tcp closed rtmp
```

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

- A. RTMP port open
- B. SQL injection
- C. Privilege escalation
- D. Insecure protocol

Answer: D

Explanation:

The data leak is most likely caused by the use of an insecure protocol. The vulnerability scan output shows that port 21/tcp for FTP (File Transfer Protocol) is open. FTP is known for transmitting data unencrypted, which could allow sensitive data to be intercepted during transfer. References: The security risks associated with the use of insecure or unencrypted protocols are covered under cloud security best practices in the CompTIA Cloud+ curriculum.

NEW QUESTION 10

A systems administrator is configuring backups on a VM and needs the process to run as quickly as possible, reducing the bandwidth on the network during all times from Monday through Saturday. In the event of data corruption, the management team expects the mean time to recovery to be as low as possible. Which of the following backup methods can the administrator use to accomplish these goals?

- A. Incremental backup daily to the cloud
- B. Full backup on Sunday and incremental backups on all other days of the week
- C. Differential backup daily to the cloud
- D. Incremental backups during off-hours on Monday, Wednesday, and Friday

Answer: B

Explanation:

To achieve a quick backup process and reduce bandwidth use, the administrator should perform a Full backup on Sunday and incremental backups on all other days of the week. This method ensures that only the changes made since the last full backup are copied, reducing the amount of data that needs to be transferred each time, and thus the time and bandwidth required. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 15

A systems administrator notices a surge of network traffic is coming from the monitoring server. The administrator discovers that large amounts of data are being downloaded to an external source. While investigating, the administrator reviews the following logs:

| Protocol | Local address | Foreign address | State |
|----------|------------------|-----------------|-------------|
| TCP | 10.181.12.5:20 | 172.17.250.12 | ESTABLISHED |
| TCP | 10.181.12.5:22 | 172.32.58.39 | ESTABLISHED |
| TCP | 10.181.12.5:443 | 172.30.252.204 | ESTABLISHED |
| TCP | 10.181.12.5:4443 | 10.11.15.82 | ESTABLISHED |
| TCP | 10.181.12.5:8048 | 172.24.255.192 | TIME_WAIT |

Which of the following ports has been compromised?

- A. Port 20
- B. Port 22
- C. Port 443
- D. Port 4443
- E. Port 8048

Answer: E

Explanation:

Based on the logs provided, the port that has been compromised is Port 8048. The state "TIME_WAIT" indicates that this port was recently used to establish a connection that has now ended. This could be indicative of the recent activity where large amounts of data were downloaded to an external source, suggesting a potential security breach. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 18

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 19

Which of the following are best practices when working with a source control system? (Select two).

- A. Merging code often
- B. Pushing code directly to production
- C. Performing code deployment
- D. Maintaining one branch for all features
- E. Committing code often
- F. Initiating a pull request

Answer: AE

Explanation:

Best practices when working with a source control system include merging code often to ensure that changes from different team members are integrated regularly, reducing integration issues. Committing code often is also recommended to save small changes frequently, which helps in tracking changes and resolving issues more effectively. References: Source control system best practices are part of the software development and deployment guidelines discussed in the CompTIA Cloud+ examination objectives.

NEW QUESTION 23

A junior cloud administrator was recently promoted to cloud administrator and has been added to the cloud administrator group. The cloud administrator group is the only one that can access the engineering VM. The new administrator unsuccessfully attempts to access the engineering VM. However, the other administrators can access it without issue. Which of the following is the best way to identify the root cause?

- A. Rebooting the engineering VM
- B. Reviewing the administrator's permissions to access the engineering VM
- C. Allowing connections from 0.0.0.0/0 to the engineering VM
- D. Performing a packet capture on the engineering VM

Answer: B

Explanation:

The best way to identify the root cause of why the new cloud administrator cannot access the engineering VM is by reviewing the administrator's permissions. It is possible that, despite being added to the cloud administrator group, the specific permissions to access the engineering VM were not properly configured. References: Permission issues are a common problem in cloud environments, and troubleshooting such issues is part of the cloud management skills discussed in the CompTIA Cloud+ certification

NEW QUESTION 28

SIMULATION

A company has decided to scale its e-commerce application from its corporate datacenter to a commercial cloud provider to meet an anticipated increase in demand during an upcoming holiday.

The majority of the application load takes place on the application server under normal conditions. For this reason, the company decides to deploy additional application servers into a commercial cloud provider using the on-premises orchestration engine that installs and configures common software and network configurations.

The remote computing environment is connected to the on-premises datacenter via a site-to-site IPsec tunnel. The external DNS provider has been configured to use weighted round-robin routing to load balance connections from the Internet.

During testing, the company discovers that only 20% of connections completed successfully.

INSTRUCTIONS

Review the network architecture and supporting documents and fulfill these requirements: Part 1:

- _ Analyze the configuration of the following components: DNS, Firewall 1, Firewall 2, Router 1, Router 2, VPN and Orchestrator Server.
- _ Identify the problematic device(s).

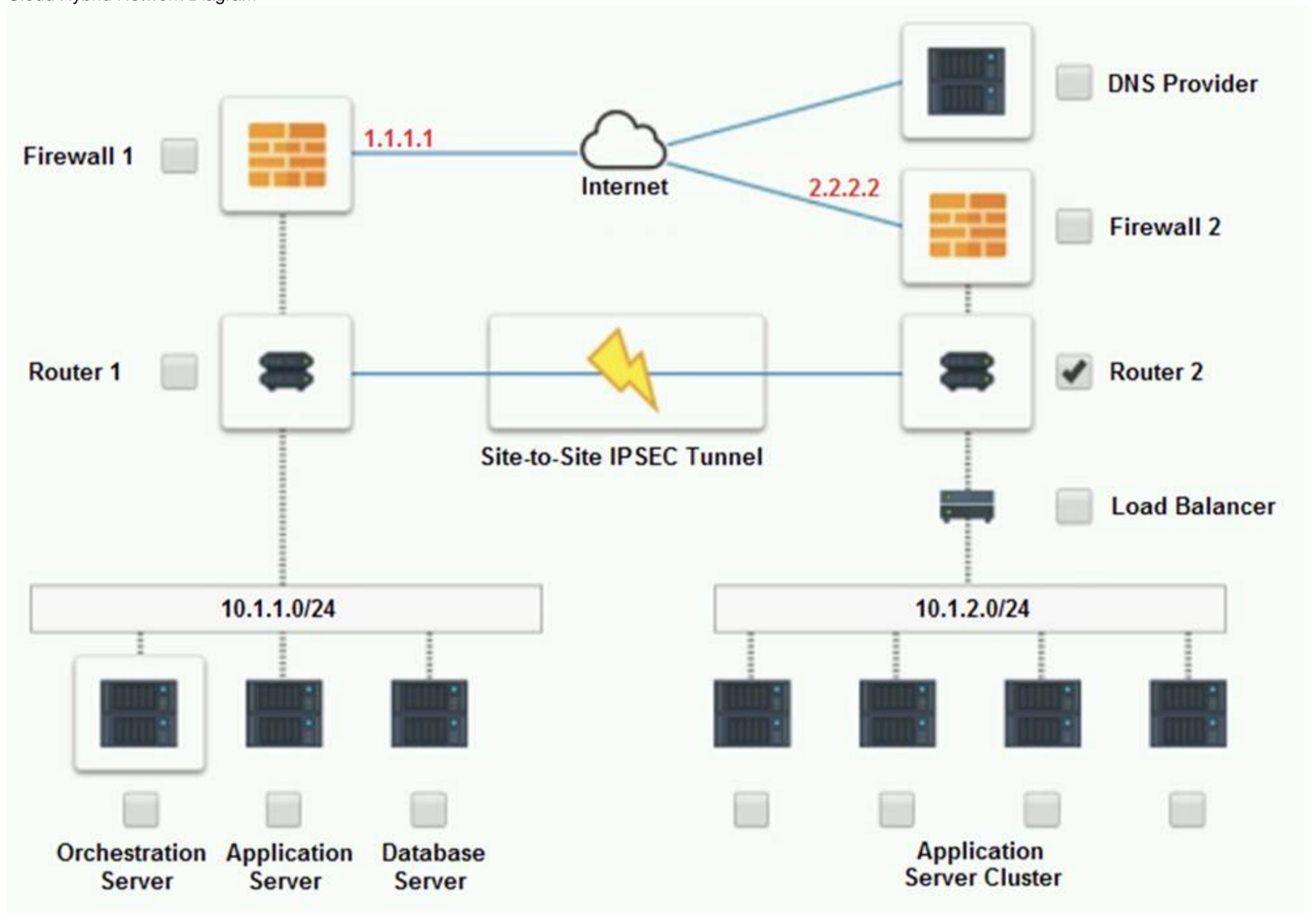
Part 2:

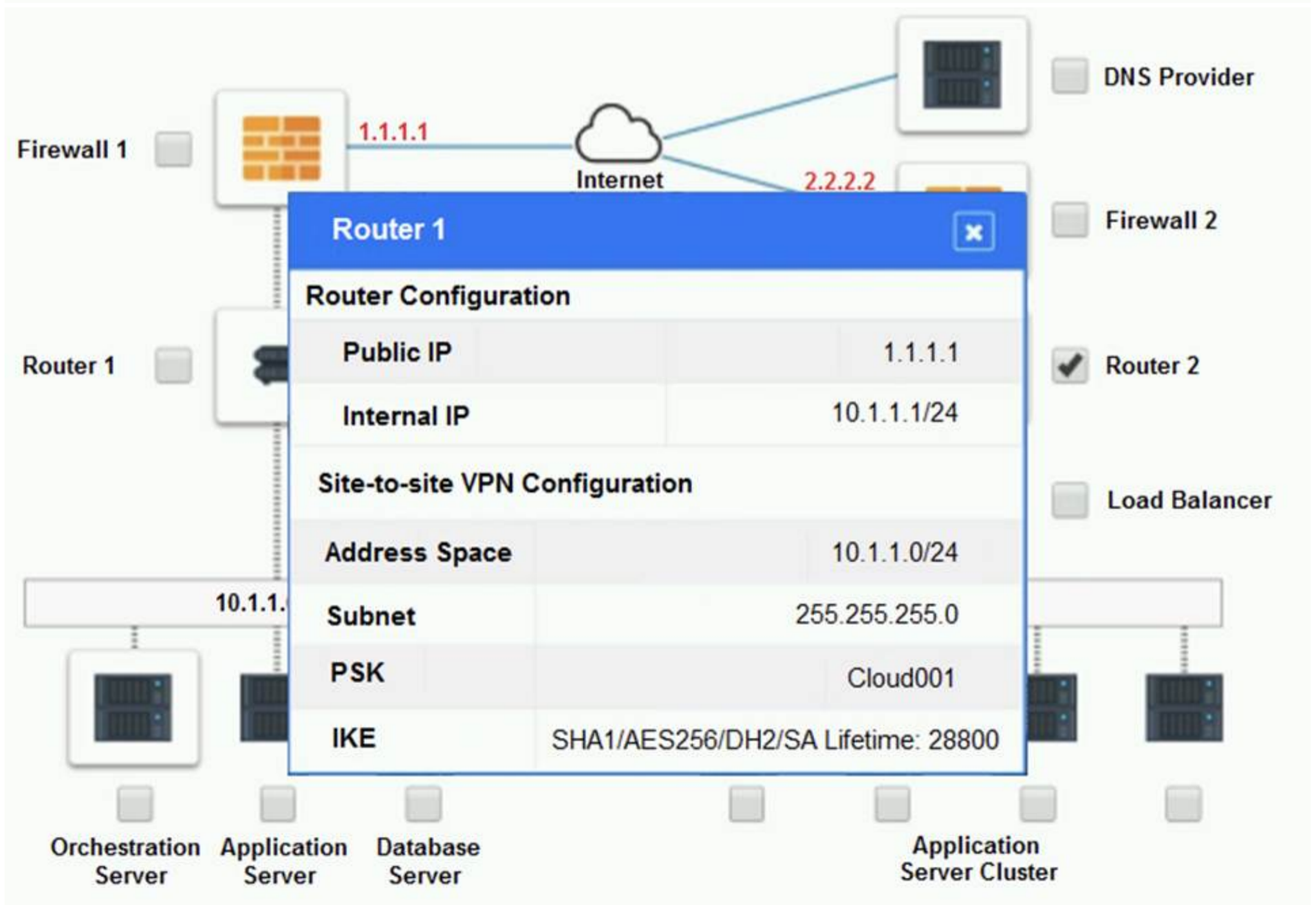
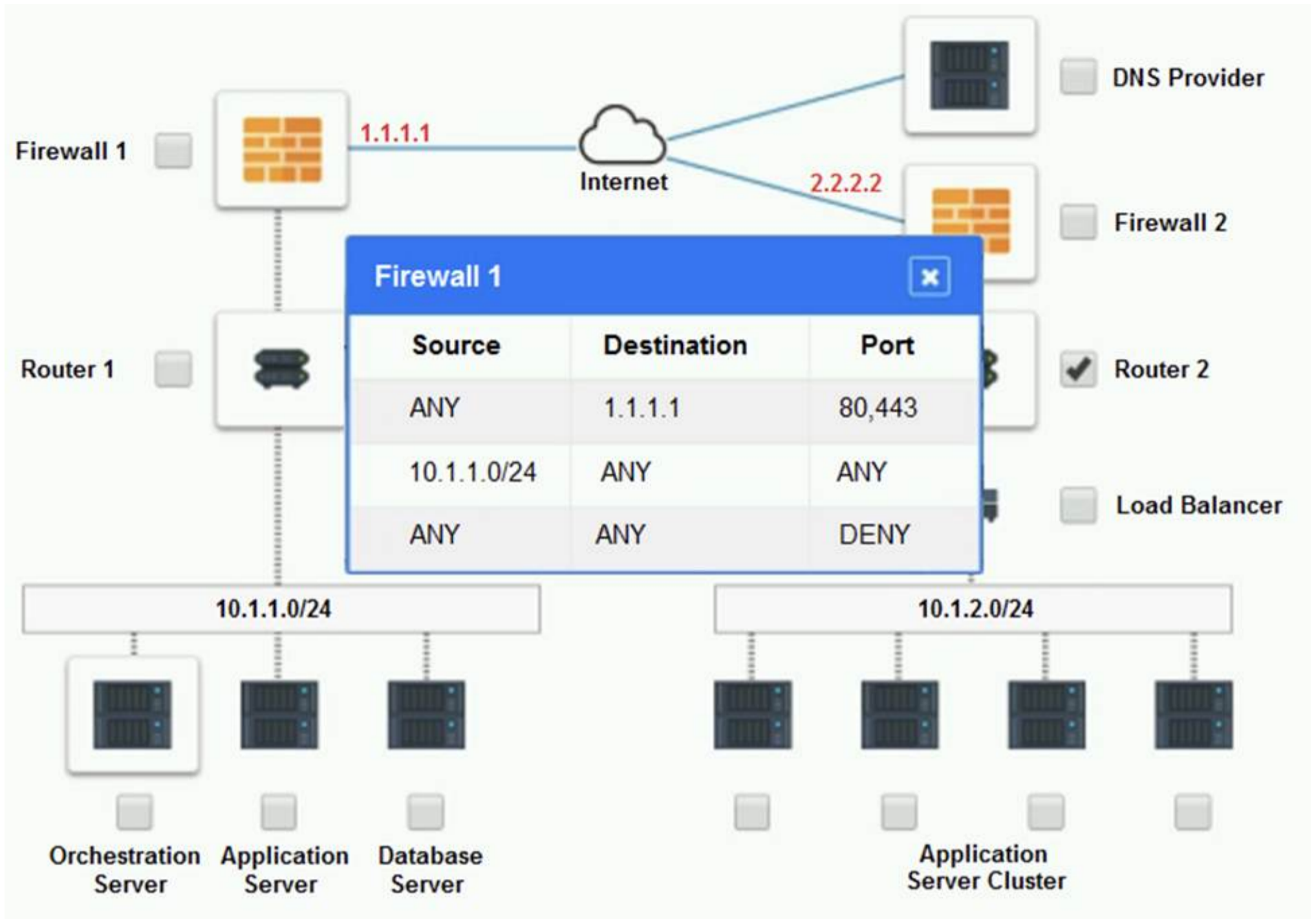
- _ Identify the correct options to provide adequate configuration for hybrid cloud architecture.

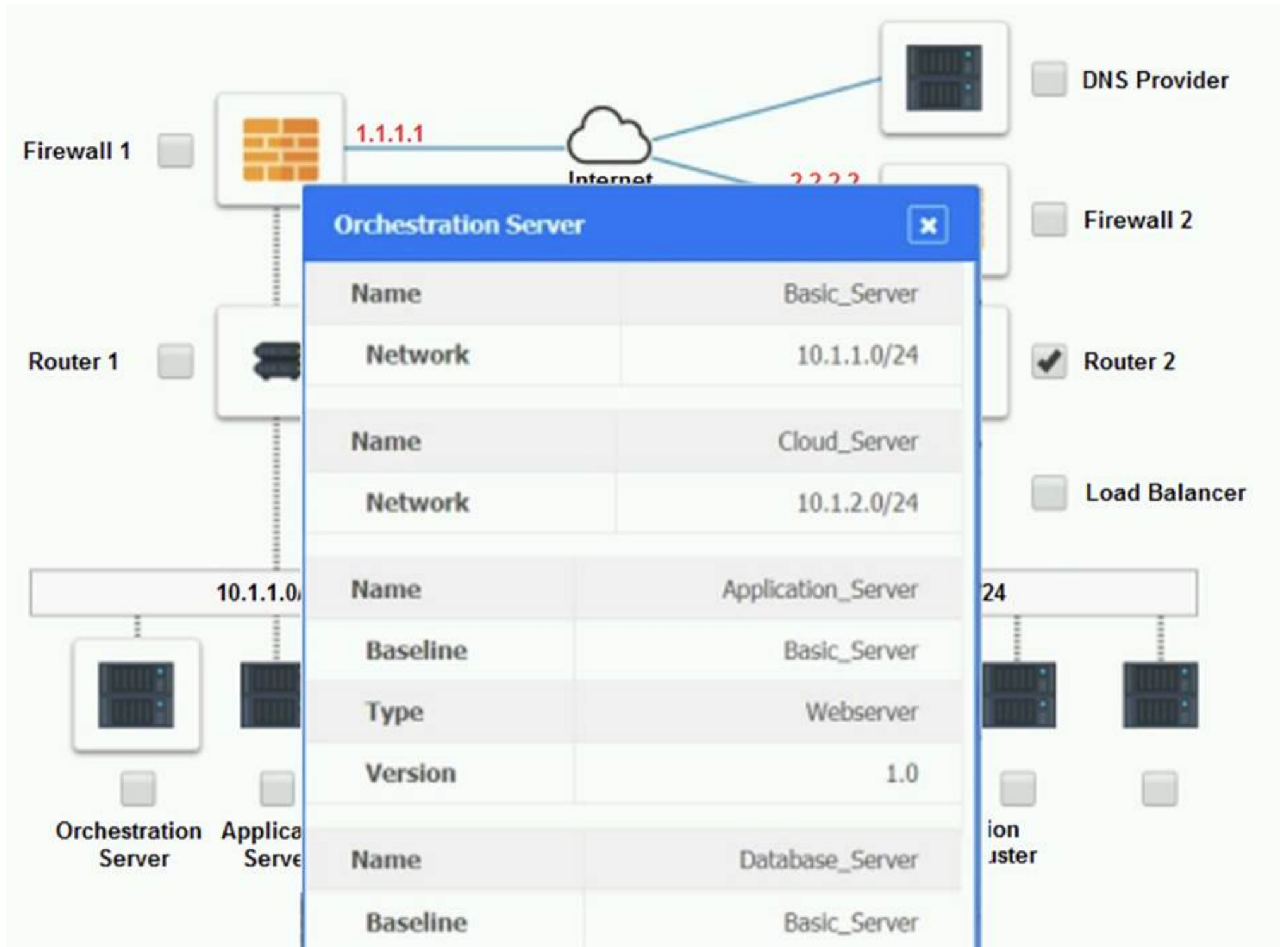
If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.

Part 1:

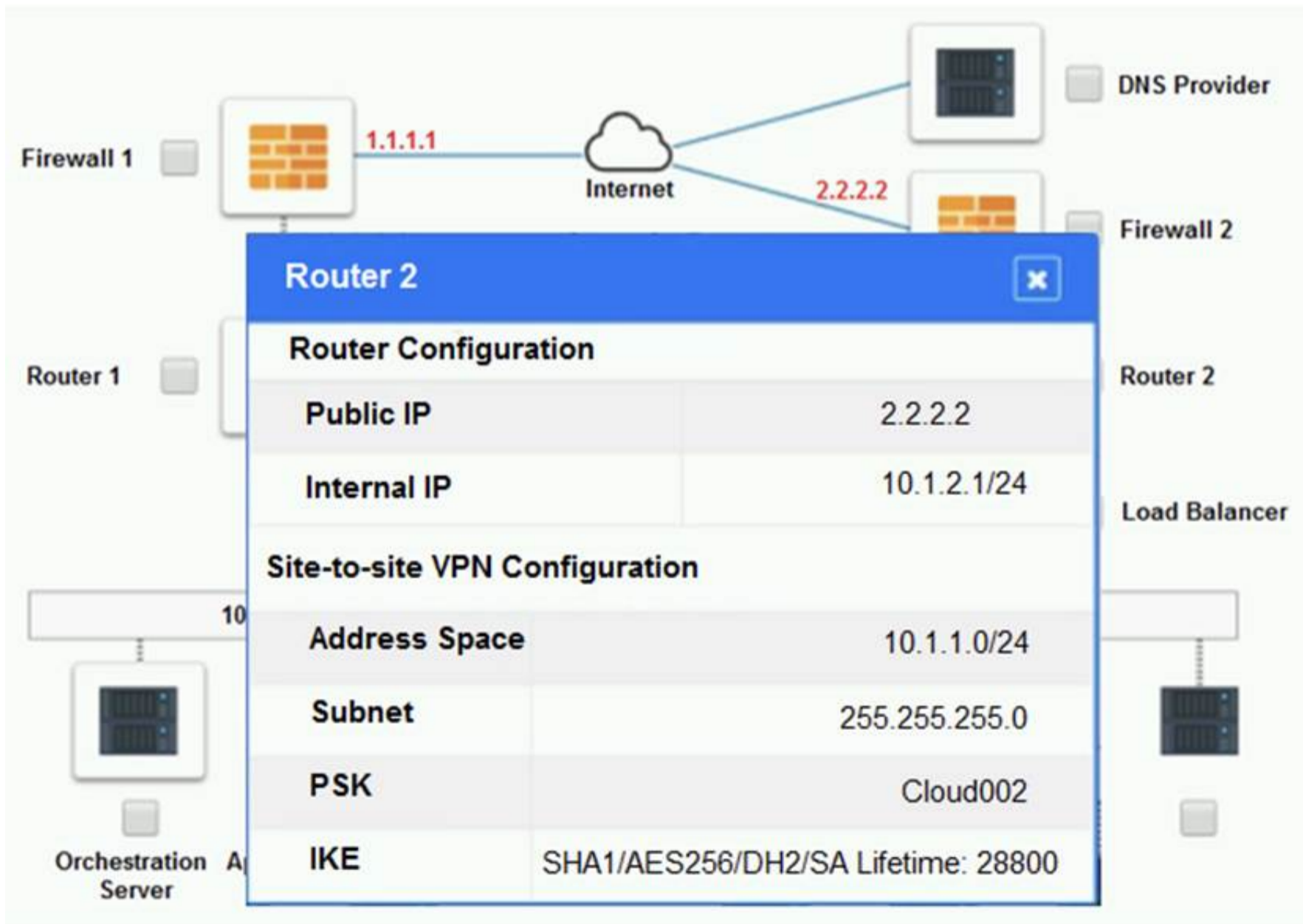
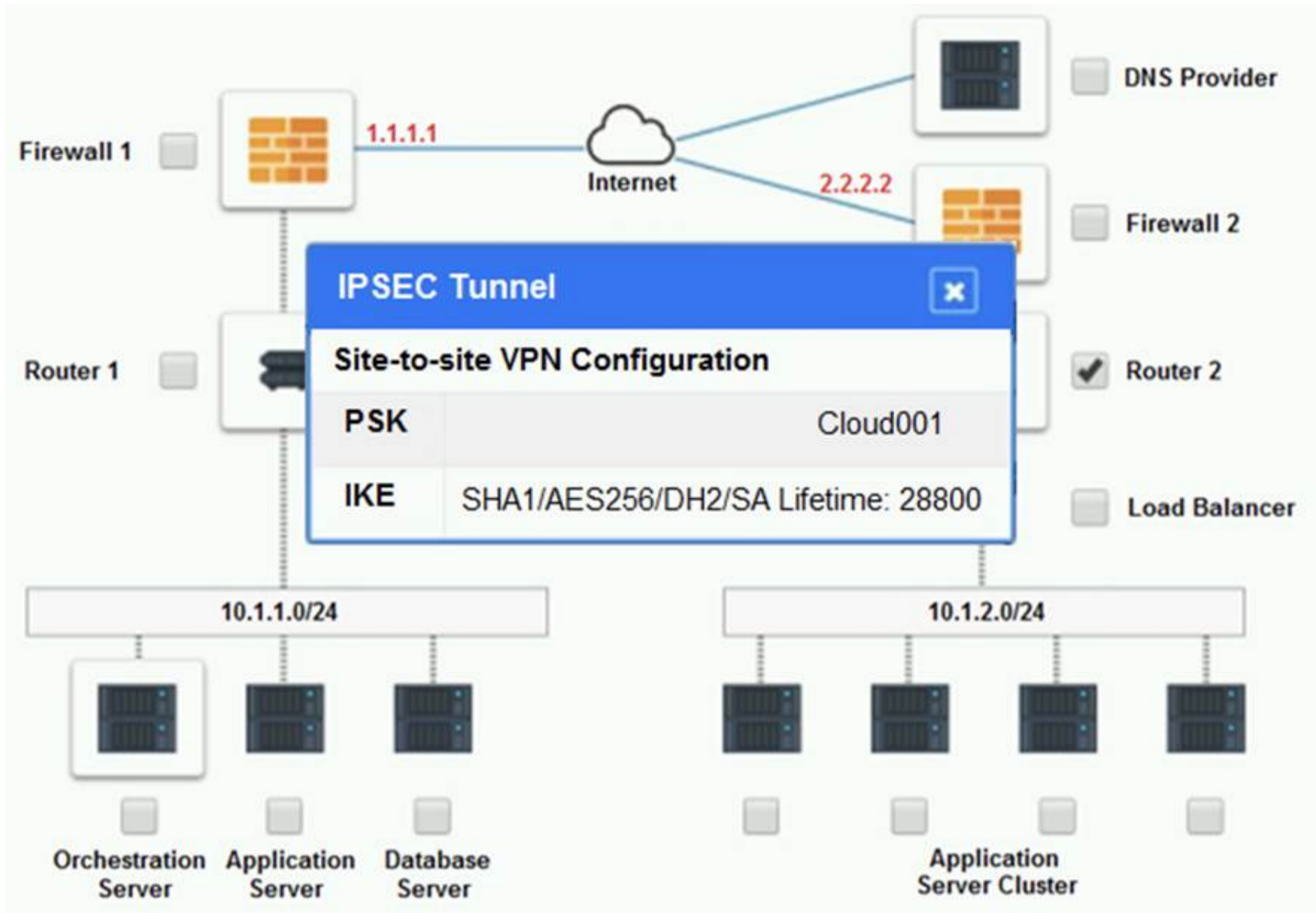
Cloud Hybrid Network Diagram

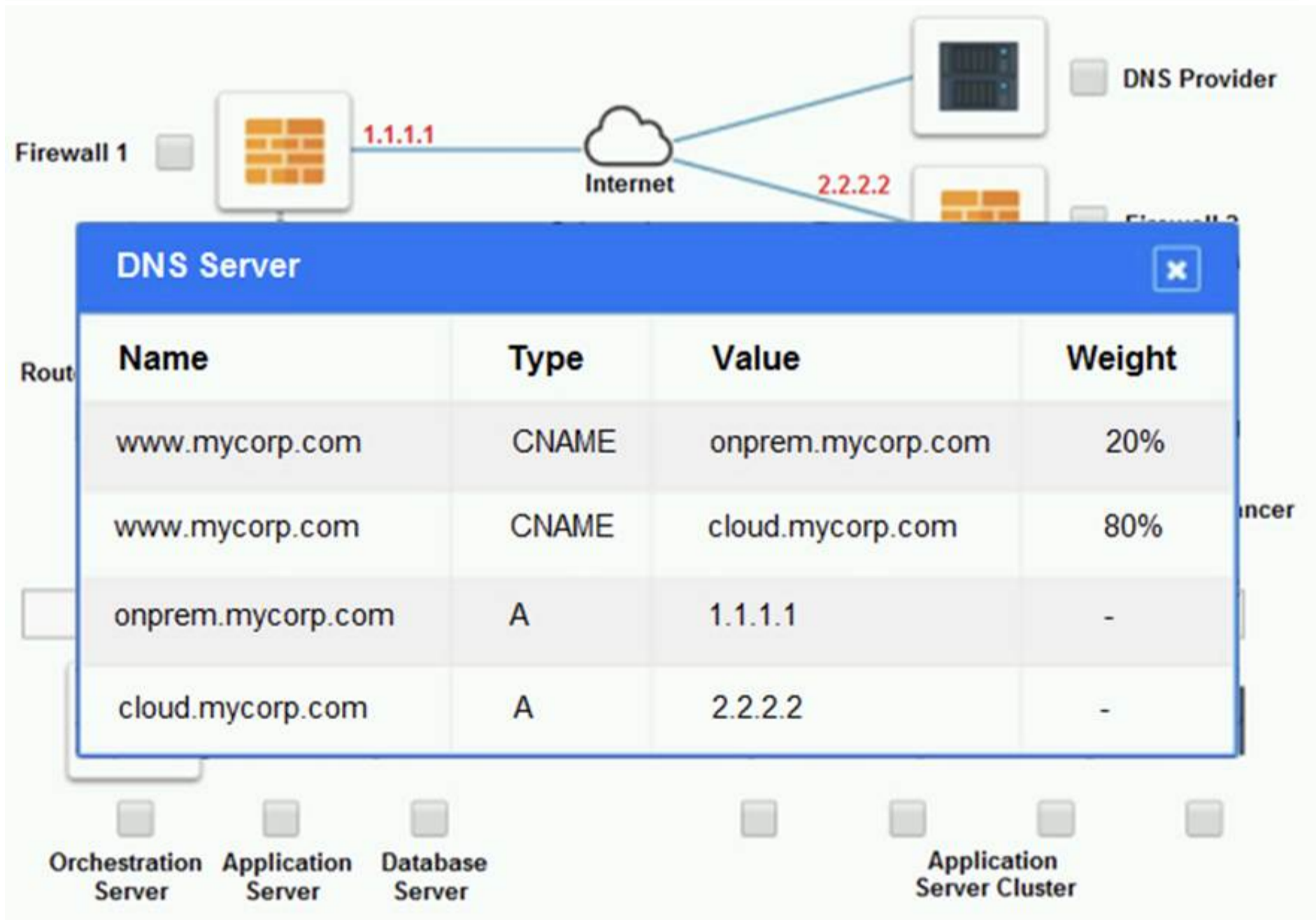
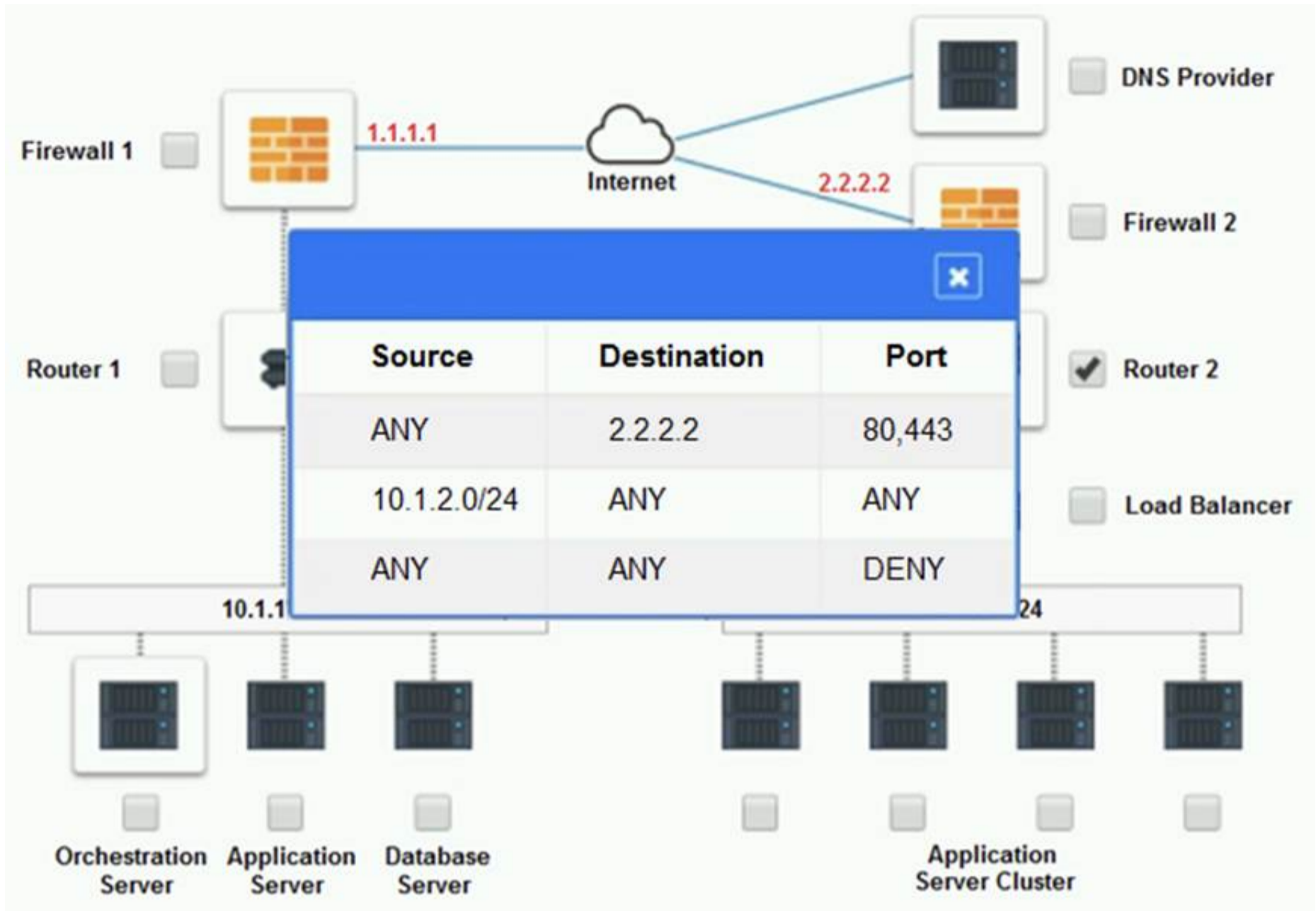






| Orchestration Server | |
|----------------------|------------------------|
| Name | Basic_Server |
| Network | 10.1.1.0/24 |
| Name | Cloud_Server |
| Network | 10.1.2.0/24 |
| Name | Application_Server |
| Baseline | Basic_Server |
| Type | Webserver |
| Version | 1.0 |
| Name | Database_Server |
| Baseline | Basic_Server |
| Type | Database Server |
| Version | 1.0 |
| Name | Corporate_Datacenter |
| Baseline | Application_Server |
| Count | 1 |
| Name | Cloud_Service_Provider |
| Baseline | Cloud_Server |
| Count | 4 |





Part 2:
 Only select a maximum of TWO options from the multiple choice question

- Deploy a Replica of the Database Server in the Cloud Provider.
- Update the PSK (Pre-shared key) in Router 2.
- Update the A record on the DNS from 2.2.2.2 to 1.1.1.1.
- Promote deny All to allow All in Firewall 1 and Firewall 2.
- Change the Address Space on Router 2.
- Change internal IP Address of Router 1.
- Reverse the Weight property in the two CNAME records on the DNS.
- Add the Application Server at on-premises to the Load Balancer.

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Part 1: Router 2

The problematic device is Router 2, which has an incorrect configuration for the IPSec tunnel. The IPSec tunnel is a secure connection between the on-premises datacenter and the cloud provider, which allows the traffic to flow between the two networks. The IPSec tunnel requires both endpoints to have matching parameters, such as the IP addresses, the pre-shared key (PSK), the encryption and authentication algorithms, and the security associations (SAs).

According to the network diagram and the configuration files, Router 2 has a different PSK and a different address space than Router 1. Router 2 has a PSK of ??1234567890??, while Router 1 has a PSK of ??0987654321??. Router 2 has an address space of 10.0.0.0/8, while Router 1 has an address space of 192.168.0.0/16. These mismatches prevent the IPSec tunnel from establishing and encrypting the traffic between the two networks.

The other devices do not have any obvious errors in their configuration. The DNS provider has two CNAME records that point to the application servers in the cloud provider, with different weights to balance the load. The firewall rules allow the traffic from and to the application servers on port 80 and port 443, as well as the traffic from and to the VPN server on port 500 and port 4500. The orchestration server has a script that installs and configures the application servers in the cloud provider, using the DHCP server to assign IP addresses.

Part 2:

The correct options to provide adequate configuration for hybrid cloud architecture are:

- ? Update the PSK in Router 2.
- ? Change the address space on Router 2.

These options will fix the IPSec tunnel configuration and allow the traffic to flow between the on-premises datacenter and the cloud provider. The PSK should match the one on Router 1, which is ??0987654321??. The address space should also match the one on Router 1, which is 192.168.0.0/16.

- * B. Update the PSK (Pre-shared key in Router2)
- * E. Change the Address Space on Router2

NEW QUESTION 33

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 34

An administrator is creating a cron job that shuts down the virtual machines at night to save on costs. Which of the following is the best way to achieve this task?

- A)

```
for X in list_vms() do
if [ describe_vm_status(X) == running]
shutdown_vm(X)
else
echo "vm $X stopped"
done
```

B)

```
for X in list_vms() do
if [ describe_vm_status(X) > running]
shutdown_vm(X)
else
echo "vm $X stopped"
done
```

C)

```
for X in list_vms() do
if [ describe_vm_status(X) == running]
shutdown_vm(X)
else
echo "vm $X stopped"
done
```

D)

```
for X in list_vms() do
if [ describe_vm_status(X) != running]
shutdown_vm(X)
else
echo "vm $X is stopped"
done
```

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

D. Option D

Answer: C

Explanation:

Option C is the correct script for shutting down virtual machines that are currently running. It iterates through a list of VMs, checks if the status of each VM is 'running', and if so, proceeds to shut down the VM. The script then prints a message stating that the VM has been stopped. This approach ensures that only VMs that are actively running are targeted for shutdown, optimizing resource utilization and cost savings.

NEW QUESTION 37

Which of the following cloud deployment strategies is best for an organization that wants to run open-source workloads with other organizations that are sharing the cost?

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

Answer: A

Explanation:

A community cloud deployment strategy is best for an organization that wants to run open-source workloads with other organizations while sharing the cost. Community clouds are collaborative efforts where infrastructure is shared between several organizations with common concerns, which could be regulatory, security, or compliance-related. References: The concept of community clouds is discussed in the domain of Cloud Concepts within the CompTIA Cloud+ exam objectives.

NEW QUESTION 39

A company needs to deploy its own code directly in the cloud without provisioning additional infrastructure. Which of the following is the best cloud service model for the company to use?

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

Answer: A

Explanation:

Platform as a Service (PaaS) is the best cloud service model for deploying code directly in the cloud without provisioning additional infrastructure. PaaS provides a platform allowing customers to develop, run, and manage applications without the complexity of building and maintaining the infrastructure. References: The PaaS model and its benefits for application deployment are covered under the Cloud Concepts domain in the CompTIA Cloud+ certification.

NEW QUESTION 44

Which of the following is the most cost-effective way to store data that is infrequently accessed?

- A. Cold site
- B. Hot site
- C. Off-site
- D. Warm site

Answer: C

Explanation:

The most cost-effective way to store data that is infrequently accessed is typically an off-site storage service, often referred to as cold or archival storage. This type of storage is designed for data that is rarely accessed, providing lower storage costs. References: Data storage solutions and their cost implications, including off-site (cold or archival) storage for infrequently accessed data, are part of the cloud storage options discussed in CompTIA Cloud+.

NEW QUESTION 48

Which of the following migration types is best to use when migrating a highly available application, which is normally hosted on a local VM cluster, for usage with an external user population?

- A. Cloud to on-premises
- B. Cloud to cloud
- C. On-premises to cloud
- D. On-premises to on-premises

Answer: C

Explanation:

When migrating a highly available application normally hosted on a local VM cluster for usage with an external user population, the best migration type would be on-premises to cloud. This allows the application to leverage the cloud's scalability and reach, providing better access to the external users. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Migration

NEW QUESTION 53

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 55

A company that has several branches worldwide needs to facilitate full access to a specific cloud resource to a branch in Spain. Other branches will have only read access. Which of the following is the best way to grant access to the branch in Spain?

- A. Set up MFA for the users working at the branch.
- B. Create a network security group with required permissions for users in Spain.
- C. Apply a rule on the WAF to allow only users in Spain access to the resource.
- D. Implement an IPS/IDS to detect unauthorized users.

Answer: B

Explanation:

The best way to grant full access to a specific cloud resource to a branch in Spain, while other branches have only read access, is to create a network security group with the required permissions. This group can be configured to allow full access to users within the branch's IP range while restricting others to read-only access. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Security Configuration

NEW QUESTION 60

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 64

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 68

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 70

For compliance purposes, a cloud developer at an insurance company needs to save all customer policies for more than ten years. Which of the following options is the most cost-efficient tier to save the data in the cloud?

- A. Archive
- B. Hot
- C. Cold
- D. Warm

Answer: A

Explanation:

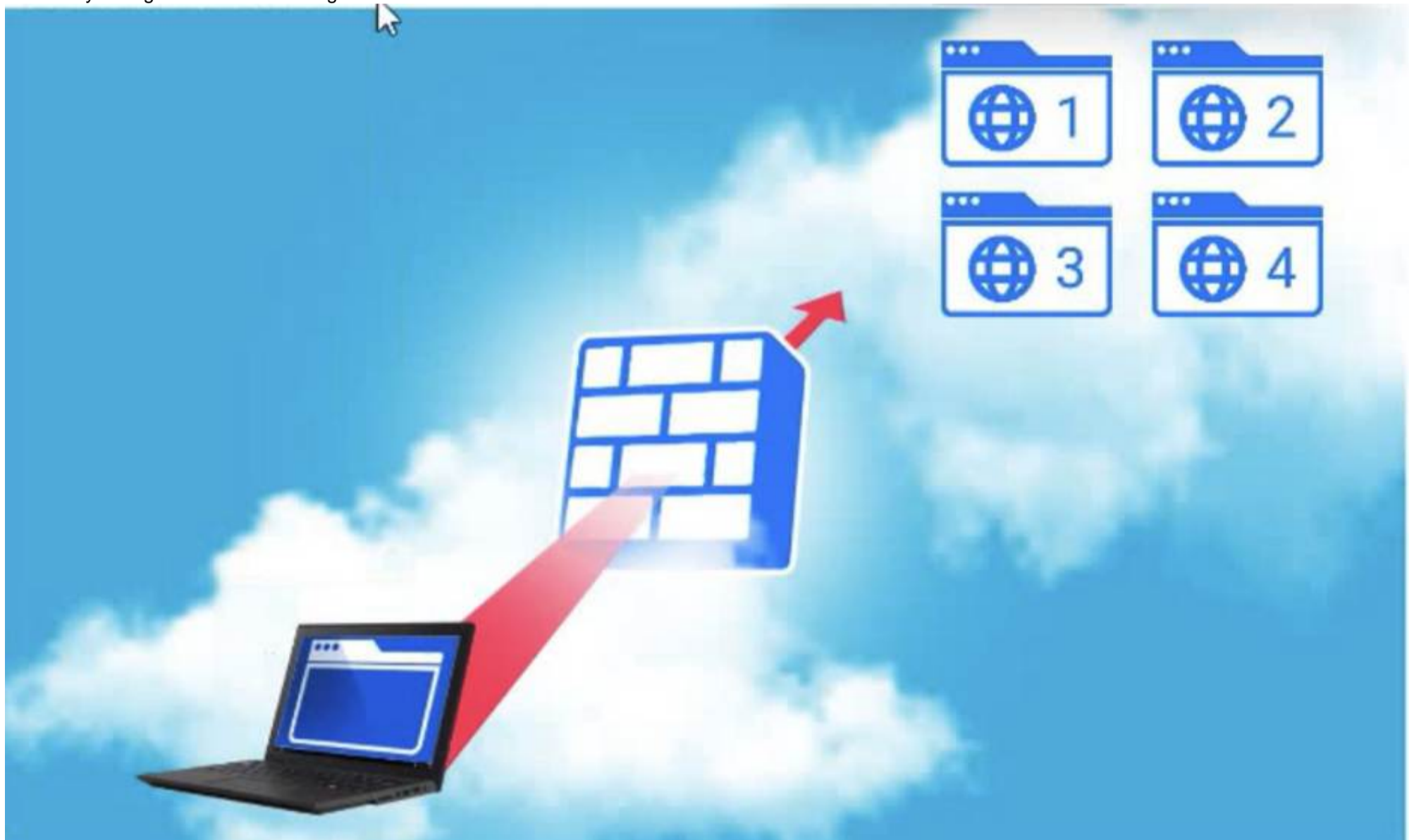
For compliance purposes, saving customer policies for more than ten years most cost-efficiently can be achieved by using the Archive storage tier. Archive or archival storage is designed for data that needs to be retained over the long term but accessed infrequently. It is generally the most cost-effective storage tier for this type of data. References: CompTIA Cloud+ Study Guide (Exam CV0-004) by Todd Montgomery and Stephen Olson

NEW QUESTION 71

SIMULATION

A company hosts various containerized applications for business uses. A client reports that one of its routine business applications fails to load the web-based login prompt hosted in the company cloud.

Click on each device and resource. Review the configurations, logs, and characteristics of each node in the architecture to diagnose the issue. Then, make the necessary changes to the WAF configuration to remediate the issue.



| Web app 1 | | | |
|-----------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp1 | FIN | 10.22.10.11 | 443 |

| Web app 2 | | | |
|-----------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp2 | VIDEO | 10.22.10.21 | 443 |

| Web app 3 | | | |
|-----------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp3 | API | 10.22.10.31 | 443 |

| Web app 4 | | | |
|-----------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp4 | CHAT | 10.22.10.41 | 443 |

| WAF | | | | |
|---------|-----------------------|---------------------------------------------------------------|--------|-------------------|
| Rule ID | Description | Service | Action | Availability zone |
| 1001 | Brute force attempt | ^https://webapp[.]compta[.]org/\$ | Block | A |
| 1002 | Botnet | ^https://webapp[.]compta[.]org/\$ | Block | A |
| 1003 | API web server | ^https://webapp3[.]compta[.]org/[[0-9A-Za-z][0-9A-Za-z_?]*]\$ | Allow | B |
| 1004 | Chat web traffic | ^https://webapp4[.]compta[.]org/chat/request[.]php\$ | Allow | B |
| 1005 | Finance application 1 | ^https://webapp1[.]compta[.]org/[[0-9A-Za-z][0-9A-Za-z_?]*]\$ | Allow | B |
| 1006 | Finance application 2 | ^https://webapp1[.]compta[.]org/login[.]html\$ | Block | A |
| 1007 | Video application | ^https://webapp2[.]compta[.]org/video/stream\$ | Allow | A |

- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

From the image, it's noticeable that some finance application rules are set to "Block" traffic. If the client's issue is with a finance-related application not loading the login prompt, these rules could be the cause.

The rule with ID 1005, labeled "Finance application 1", is configured to allow access to "webapp1" for finance-related paths. However, rule 1006, labeled "Finance application 2", is set to block access to "webapp1" for login-related paths.

To remediate the issue based on the WAF configuration you have provided, you would want to:

- ? Ensure that the correct paths to the finance application are allowed through the WAF.
- ? Modify any rules that are incorrectly blocking access to the application.

If the client's problem is specifically with the login prompt, then rule 1006 seems the most likely culprit. Changing the action from "Block" to "Allow" for rule 1006 could potentially resolve the client's issue. The rule should be carefully reviewed and updated to ensure legitimate traffic is not being blocked while still protecting against unauthorized access.

NEW QUESTION 76

A company has one cloud-based web server that is prone to downtime during maintenance. Which of the following should the cloud engineer add to ensure high availability?

- A. A redundant web server behind a load balancer
- B. A backup cloud web server
- C. A secondary network link to the web server
- D. An autoscaling feature on the web server

Answer: A

Explanation:

Adding a redundant web server behind a load balancer is the solution that will ensure high availability. If one server goes down for maintenance, the other can take over, ensuring that the web service remains available without interruption. References: High availability concepts, including the use of load balancers and redundant servers, are part of cloud infrastructure design as per CompTIA Cloud+.

NEW QUESTION 81

A company operates a website that allows customers to upload, share, and retain full ownership of their photographs. Which of the following could affect image ownership as the website usage expands globally?

- A. Sovereignty
- B. Data classification
- C. Litigation holds
- D. Retention

Answer: A

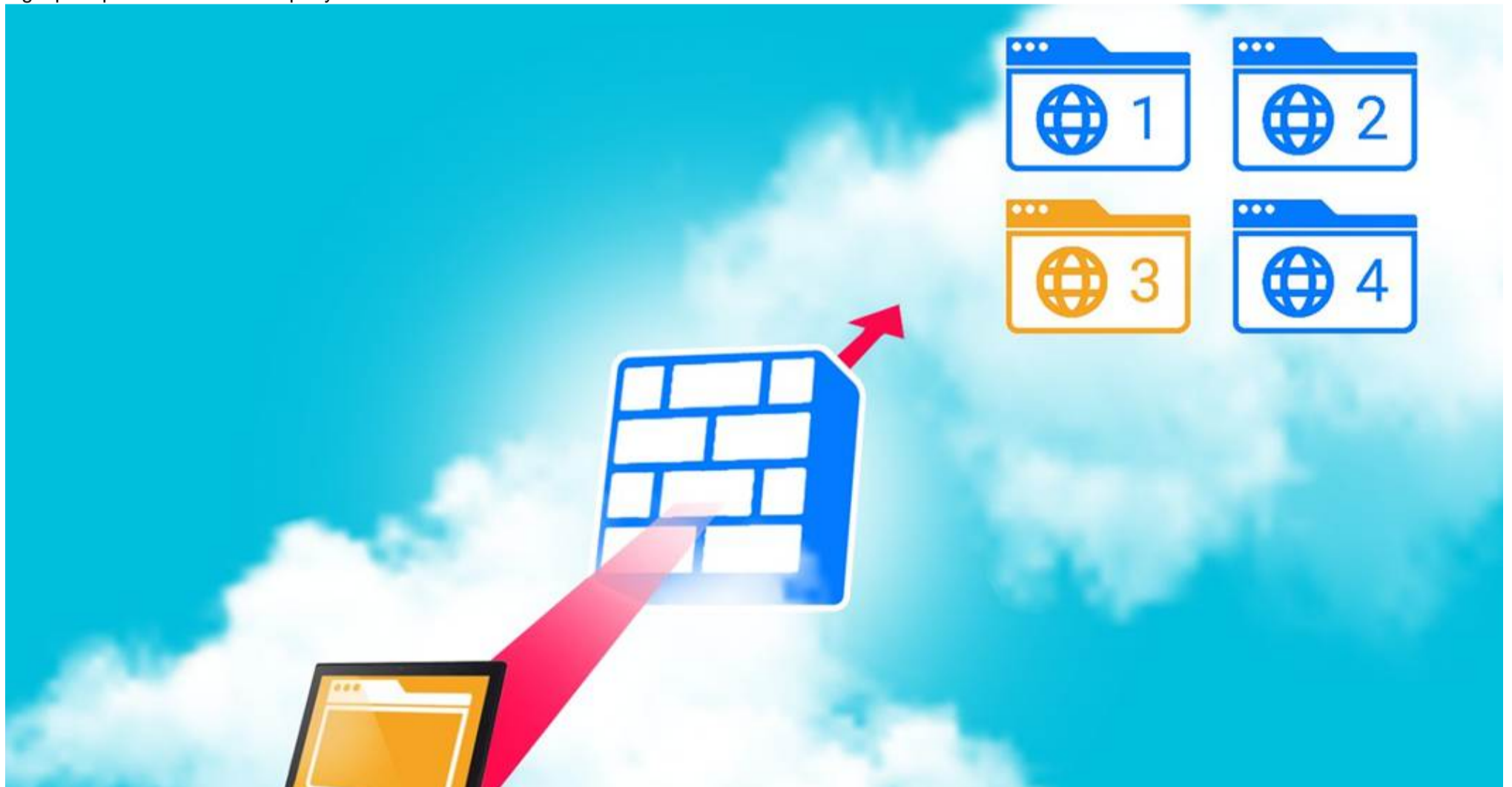
Explanation:

Data sovereignty refers to the legal implications of storing data in a country, subject to that country's laws. As the website's usage expands globally, data sovereignty becomes a critical concern because laws governing data ownership, privacy, and rights can vary significantly from one jurisdiction to another, potentially affecting the users' ownership rights over their photographs.

NEW QUESTION 86

SIMULATION

A company hosts various containerized applications for business uses. A client reports that one of its routine business applications fails to load the web-based login prompt hosted in the company cloud.



INSTRUCTIONS

Click on each device and resource. Review the configurations, logs, and characteristics of each node in the architecture to diagnose the issue. Then, make the necessary changes to the WAF configuration to remediate the issue.

Web app 1

| Web app 1 ✕ | | | |
|------------------------------------------------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp1 | FIN | 10.22.10.11 | 443 |

Web app 2

| Web app 2 ✕ | | | |
|------------------------------------------------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp2 | VIDEO | 10.22.10.21 | 443 |

Web app 3

| Web app 3 ✕ | | | |
|------------------------------------------------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp3 | API | 10.22.10.31 | 443 |

Web app 4

| Web app 4 ✕ | | | |
|------------------------------------------------|----------|-------------|----------|
| SVC_Host | SVC_Name | SVC IP | SVC_Port |
| webapp4 | CHAT | 10.22.10.41 | 443 |

Client app

✕

Client app

Client laptop
App config

| | |
|---------------|-------|
| https_enabled | true |
| cert_status | valid |
| start | login |

✕

Client app

Client laptop
App config

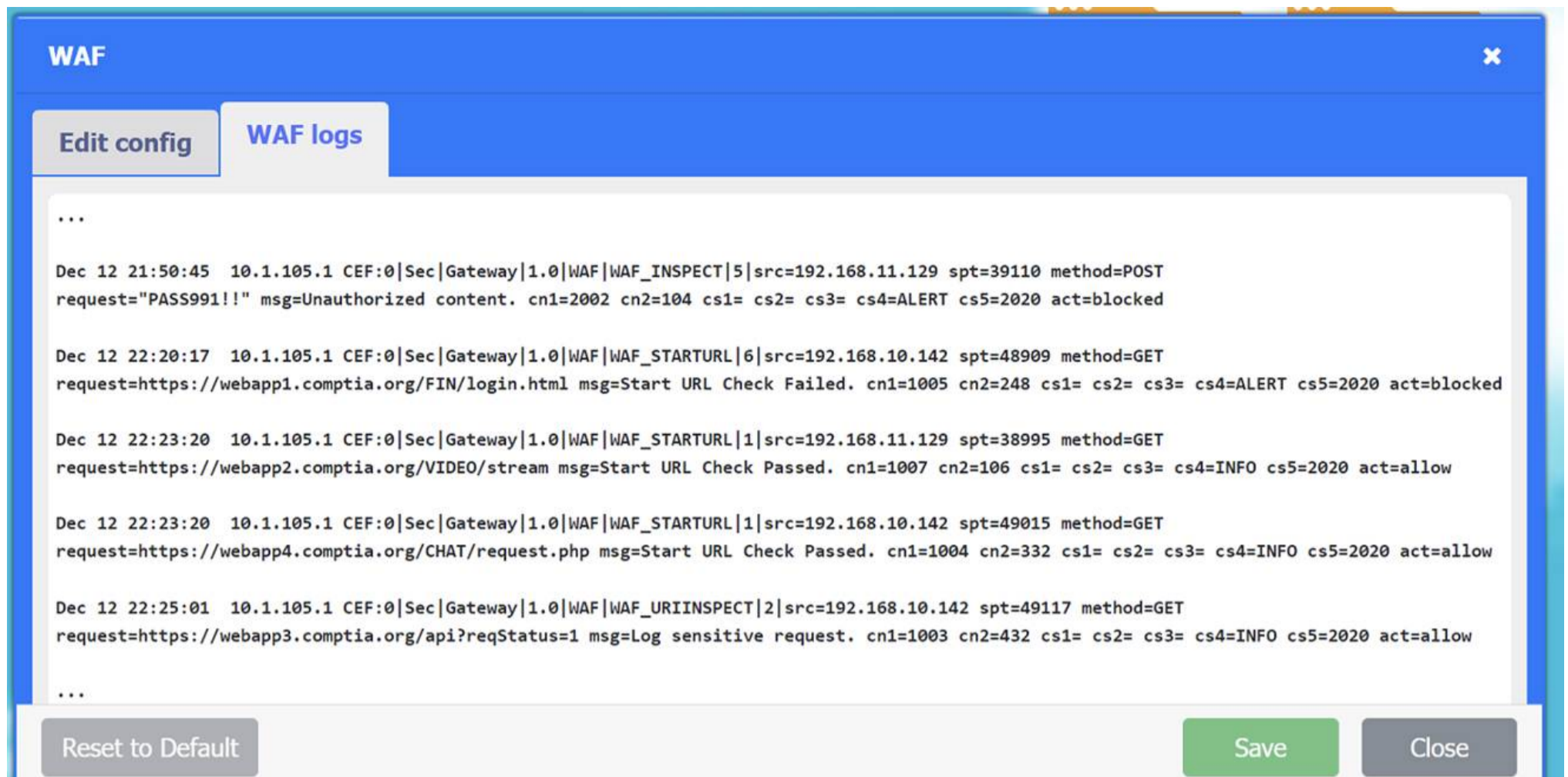
| | |
|------|----------------|
| Host | client142 |
| IP | 192.168.10.142 |

✕

WAF

Edit config
WAF logs

| Rule ID | Description | Service | Action | Availability zone |
|---------|-----------------------|----------------------------------------------------------------------------------------------|------------------------------------------------|-------------------|
| 1001 | Brute-force attempt | <input type="text" value="^https://webapp[.]comptia[.]org/\$"/> | Block ▼ | A |
| 1002 | Botnet | <input type="text" value="^https://webapp[.]comptia[.]org/\$"/> | Block ▼ | A |
| 1003 | API web server | <input type="text" value="^https://webapp3[.]comptia[.]org/([0-9A-Za-z][0-9A-Za-z-?]*)*\$"/> | Allow ▼ | B |
| 1004 | Chat web traffic | <input type="text" value="^https://webapp4[.]comptia[.]org/chat/request[.]php\$"/> | Allow ▼ | B |
| 1005 | Finance application 1 | <input type="text" value="^https://webapp1[.]comptia[.]org/([0-9A-Za-z][0-9A-Za-z-?]*)*\$"/> | Allow ▼ | B |
| 1006 | Finance application 2 | <input type="text" value="^https://webapp1[.]comptia[.]org/login[.]html\$"/> | Block ▼ | A |
| 1007 | Video application | <input type="text" value="^https://webapp2[.]comptia[.]org/video/stream\$"/> | Allow ▼ | A |



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

The issue is with Web app 1 (Finance application).

From the WAF logs, we can see that requests to <https://webapp1.comptia.org/FIN/login.html> are being blocked (Rule ID 1006). The rule is configured to block access to the finance application's login page. This corresponds to the reported issue of the web-based login prompt not loading.

To remediate the issue, the WAF configuration for Rule ID 1006 should be changed from "Block" to "Allow". This will enable the web-based login prompt to load for the client. Additionally, the client app configuration indicates that the client laptop (IP 192.168.10.142) is trying to access the service, and the WAF logs show that requests from this IP are being blocked due to the current rule set. Changing the action for Rule ID 1006 will also ensure that legitimate attempts to access the login page from this IP are not blocked.

Steps for remediation:

- ? Go to the WAF configuration.
- ? Find Rule ID 1006 for the Finance application 1.
- ? Change the action from "Block" to "Allow".
- ? Save the changes.

References:

? Web application firewall (WAF) configurations typically include rules that define which traffic should be allowed or blocked. Blocking legitimate traffic to login pages can prevent users from accessing the application, which seems to be the case here.

? Client application configurations and WAF logs provide valuable insights into the source of the traffic and the rules that are affecting it. It's important to ensure that the rules align with the intended access policies for the application.

NEW QUESTION 89

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 91

An IT security team wants to ensure that the correct parties are informed when a specific user account is signed in. Which of the following would most likely allow an administrator to address this concern?

- A. Creating an alert based on user sign-in criteria
- B. Aggregating user sign-in logs from all systems
- C. Enabling the collection of user sign-in logs
- D. Configuring the retention of all sign-in logs

Answer: A

Explanation:

To ensure that the correct parties are informed when a specific user account is signed in, the best action is to create an alert based on user sign-in criteria. This alert can notify administrators or security personnel when the specified event occurs. References: Security monitoring and alerting are critical components of managing cloud environments securely, as discussed in the CompTIA Cloud+ certification.

NEW QUESTION 92

An administrator needs to adhere to the following requirements when moving a customer's data to the cloud:

- The new service must be geographically dispersed.
- The customer should have local access to data
- Legacy applications should be accessible.

Which of the following cloud deployment models is most suitable?

- A. On-premises
- B. Private
- C. Hybrid
- D. Public

Answer: C

Explanation:

A hybrid cloud deployment model is most suitable given the requirements. This model combines on-premises infrastructure (or private cloud) with public cloud services, providing geographic dispersion while allowing local access to data. It also facilitates the use of legacy applications that might not be well-suited for a full public cloud environment. References: The hybrid model is a fundamental concept within the CompTIA Cloud+ curriculum, under the section of Cloud Concepts, that explains deployment models.

NEW QUESTION 94

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 99

Given the following command:

```
Sdocker pull images.comptia.org/user1/myimage:latest
```

Which of the following correctly identifies images.comptia.org?

- A. Image registry
- B. Image creator
- C. Image version
- D. Image name

Answer: A

Explanation:

In the Docker pull command given, images.comptia.org represents the image registry. A Docker image registry is a collection of repositories that host Docker images. It is where images are stored and organized, and from where they can be pulled for deployment. References: Docker and container management concepts, including image registries, are part of the cloud services understanding in the CompTIA Cloud+ curriculum.

NEW QUESTION 104

A software engineer is integrating an application to the cloud that is web socket based. Which of the following applications is the engineer most likely deploying?

- A. Image-sharing
- B. Data visualization
- C. Chat
- D. File transfer

Answer: C

Explanation:

A chat application is most likely to be deployed when integrating a web socket-based application to the cloud. Web sockets provide full-duplex communication channels over a single, long-lived connection, which is ideal for real-time applications like chat services that require persistent connections between the client and server for instant data exchange. References: CompTIA Cloud+ materials cover cloud networking concepts, emphasizing the importance of choosing the right technologies, like web sockets, for specific application requirements to ensure efficient and responsive cloud-based services.

NEW QUESTION 108

A developer is building an application that has multiple microservices that need to communicate with each other. The developer currently manually updates the IP address of each service. Which of the following best resolves the communication issue and automates the process?

- A. Service discovery
- B. Fan-out
- C. Managed container services
- D. DNS

Answer: A

Explanation:

Service discovery is a key component in microservices architectures, allowing services to dynamically discover and communicate with each other. By implementing service discovery, the developer can automate the process of updating service addresses, resolving the communication issue without manual updates to IP addresses, thus ensuring seamless interaction between the microservices. References: CompTIA Cloud+ resources and microservices architecture principles

NEW QUESTION 110

Which of the following storage resources provides higher availability and speed for currently used files?

- A. Warm/HDD
- B. Cold/SSD
- C. Hot/SSD
- D. Archive/HDD

Answer: C

Explanation:

Hot storage using Solid State Drives (SSD) is designed for data that needs to be accessed frequently and quickly. SSDs provide faster access times compared to HDDs, making them suitable for high-availability and speed-critical files, such as those currently in use or requiring rapid access. References: CompTIA Cloud+ resources and storage tiering concepts


NEW QUESTION 112

HOTSPOT

An e-commerce company is migrating from an on-premises private cloud environment to a public cloud IaaS environment. You are tasked with right-sizing the environment to save costs after the migration. The company's requirements are to provide a 20% overhead above the average resource consumption, rounded up. INSTRUCTIONS

Review the specifications and graphs showing resource usage for the web and database servers. Determine the average resource usage and select the correct specifications from the available drop-down options.





Web Server

Current Specifications
 CPU: 4vCPU
 RAM: 16GB
 Disk Speed: 20MB/s

Target Specifications
 CPU:
 RAM:
 Disk Speed:

- 2 vCPUs
- 6 vCPUs
- 4 vCPUs
- 8 vCPUs
- 1 vCPU

- 32GB
- 16GB
- 128GB
- 1GB
- 8GB
- 4GB
- 64GB
- 2GB

- 120MBps
- 70MBps
- 110MBps
- 5MBps
- 80MBps
- 100MBps
- 90MBps
- 30MBps
- 10MBps
- 15MBps
- 25MBps

Processor Usage (%)


| Day | Usage (%) |
|-----|-----------|
| 1 | 11 |
| 2 | 5 |
| 3 | 31 |
| 4 | 23 |
| 5 | 16 |
| 6 | 9 |
| 7 | 21 |

RAM Usage (%)

| Day | Usage (%) |
|-----|-----------|
| 1 | 15 |
| 2 | 15 |
| 3 | 15 |
| 4 | 15 |
| 5 | 15 |
| 6 | 15 |
| 7 | 15 |

Disk Throughput (MBps)

| Day | Throughput (MBps) |
|-----|-------------------|
| 1 | 2 |
| 2 | 8 |
| 3 | 5 |
| 4 | 11 |
| 5 | 4 |
| 6 | 6 |
| 7 | 3 |



Database Server

Current Specifications
 CPU: 4vCPU
 RAM: 16GB
 Disk Speed: 20MB/s

Target Specifications
 CPU:
 RAM:
 Disk Speed:

- 2 vCPUs
- 6 vCPUs
- 4 vCPUs
- 8 vCPUs
- 1 vCPU

- 32GB
- 16GB
- 128GB
- 1GB
- 8GB
- 4GB
- 64GB
- 2GB

- 120MBps
- 70MBps
- 110MBps
- 5MBps
- 80MBps
- 100MBps
- 90MBps
- 30MBps
- 10MBps
- 15MBps
- 25MBps

Processor Usage (%)

| Day | Usage (%) |
|-----|-----------|
| 1 | 65 |
| 2 | 55 |
| 3 | 68 |
| 4 | 72 |
| 5 | 63 |
| 6 | 69 |
| 7 | 67 |

RAM Usage (%)

| Day | Usage (%) |
|-----|-----------|
| 1 | 80 |
| 2 | 80 |
| 3 | 80 |
| 4 | 80 |
| 5 | 80 |
| 6 | 80 |
| 7 | 80 |

Disk Throughput (MBps)

| Day | Throughput (MBps) |
|-----|-------------------|
| 1 | 86 |
| 2 | 95 |
| 3 | 74 |
| 4 | 79 |
| 5 | 91 |
| 6 | 95 |
| 7 | 87 |

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- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

For the Web Server:

? CPU: 2 vCPUs

? RAM: 2GB

? Disk Speed: 10MBps

For the Database Server:

? CPU: 6 vCPUs

? RAM: 128GB

? Disk Speed: 110MBps

These selections are based on maintaining a 20% overhead above the average resource consumption and rounding up to the next available option in the dropdowns provided.

NEW QUESTION 116

Which of the following integration systems would best reduce unnecessary network traffic by allowing data to travel bidirectionally and facilitating real-time results for developers who need to display critical information within applications?

- A. REST API
- B. RPC
- C. GraphQL
- D. Web sockets

Answer: D

Explanation:

Web sockets provide a full-duplex communication channel over a single, long-lived connection, allowing data to flow bidirectionally between a client and a server. This is ideal for real-time applications where developers need to display critical information without unnecessary network overhead, as it reduces the need for repetitive HTTP requests and allows for more efficient, instantaneous data updates and interactions.

NEW QUESTION 118

A company has ten cloud engineers working on different manual following is the best method to address this issue?

- A. Deployment documentation
- B. Service logging
- C. Configuration as code
- D. Change ticketing

Answer: C

Explanation:

Configuration as code is the best method to address the issue of cloud engineers working on different manual configurations. This practice allows configurations to be scripted and automated, which reduces human error, enhances consistency, and makes the deployment process more efficient and reproducible. References: Configuration as code is part of cloud deployment best practices, ensuring standardized environments, which is a key topic within the CompTIA Cloud+ curriculum.

NEW QUESTION 120

A cloud engineer is troubleshooting a connectivity issue. The application server with IP 192.168.1.10 in one subnet is not connecting to the MySQL database server with IP 192.168.2.20 in a different subnet. The cloud engineer reviews the following information: Application Server Stateful Firewall

| Inbound rules | Outbound rules |
|----------------|-----------------|
| PERMIT ANY 443 | PERMIT ANY 443 |
| DENY ANY ANY | PERMIT ANY 3306 |
| | PERMIT ANY 53 |
| | DENY ANY ANY |

Application Server Subnet Routing Table

| Destination | Gateway |
|----------------|-------------|
| default | 192.168.1.1 |
| 192.168.1.0/24 | local |

MySQL Server Stateful Firewall

| Inbound rules | Outbound rules |
|-----------------------------|----------------|
| PERMIT 192.168.1.10/32 3306 | DENY ANY ANY |
| DENY ANY ANY | |

MySQL Server Subnet Routing Table

| Destination | Gateway |
|----------------|-------------|
| 192.168.2.0/24 | 192.168.1.1 |
| 192.168.1.0/24 | local |

Which of the following should the cloud engineer address to fix the communication issue?

- A. The Application Server Stateful Firewall
- B. The Application Server Subnet Routing Table
- C. The MySQL Server Stateful Firewall
- D. The MySQL Server Subnet Routing Table

Answer: C

Explanation:

The connectivity issue between the application server and the MySQL database server in different subnets is likely due to the MySQL Server Stateful Firewall's inbound rules. The application server has an IP of 192.168.1.10, but the MySQL server's inbound rules only permit IP 192.168.1.10/32 on port 3306. This rule allows only a single IP address (192.168.1.10) to communicate on port 3306, which is typical for MySQL. However, if the application server's IP is not 192.168.1.10 or the application is trying to communicate on a different port, it would be blocked. To fix the communication issue, the cloud engineer should address the inbound rules on the MySQL Server Stateful Firewall to ensure that the application server's IP address and the required port are allowed. References: Based on the information provided in the question and general networking principles.

NEW QUESTION 122

A video surveillance system records road incidents and stores the videos locally before uploading them to the cloud and deleting them from local storage. Which of the following best describes the nature of the local storage?

- A. Persistent
- B. Ephemeral
- C. Differential
- D. Incremental

Answer: B

Explanation:

The nature of the local storage in a video surveillance system that records road incidents and stores the videos locally before uploading them to the cloud and deleting them from local storage is ephemeral. Ephemeral storage is temporary and is designed to provide short-term storage for information that changes frequently or is not meant to be persistent. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Storage Options

NEW QUESTION 127

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 128

A cloud administrator learns that a major version update, 4.6.0, is available for a business-critical application. The application is currently on version 4.5.2, with additional minor versions 3, 4, and 5 available. The administrator needs to perform the update while minimizing downtime. Which of the following should the administrator do first?

- A. Apply the minor updates and then restart the machine before applying the major update.
- B. During off hours, decommission the machine and create a new one directly on major update 4.6.0.
- C. Stop the service and apply the major updates directly.
- D. Create a test environment and apply the major update

Answer: D

Explanation:

The first step the administrator should take is to create a test environment and apply the major update there. This allows for testing the new version without impacting the production environment, thus minimizing downtime and the potential for unexpected issues. References: Creating test environments and conducting thorough testing before applying updates in production is a risk mitigation strategy covered under cloud deployment and operations in the CompTIA Cloud+ certification.

NEW QUESTION 129

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 134

A cloud developer is creating a static website that customers will be accessing globally. Which of the following services will help reduce latency?

- A. VPC
- B. Application load balancer
- C. CDN
- D. API gateway

Answer: C

Explanation:

A Content Delivery Network (CDN) is the service that will help reduce latency for a static website accessed globally. CDNs distribute content across multiple geographically dispersed servers, allowing users to connect to a server that is closer to them, thereby reducing the time it takes to load the website. References: The use of CDNs is a common practice to enhance global access and improve user experience, as covered under Cloud Concepts in the CompTIA Cloud+ certification.

NEW QUESTION 138

A software engineer needs to transfer data over the internet using programmatic access while also being able to query the data. Which of the following will best help the engineer to complete this task?

- A. SQL
- B. Web sockets
- C. RPC
- D. GraphQL

Answer: D

Explanation:

GraphQL is the best option for transferring data over the internet with programmatic access and querying capabilities. It is a query language for APIs and a runtime for executing those queries with existing data, providing a more efficient, powerful, and flexible alternative to the REST API. References: Data transfer and querying methods are part of the technical knowledge associated with cloud computing, as included in CompTIA Cloud+.

NEW QUESTION 140

Which of the following is used to detect signals and measure physical properties, such as the temperature of the human body?

- A. Beacon
- B. Transmission protocols
- C. Sensors
- D. Gateways

Answer: C

Explanation:

Sensors are used to detect signals and measure physical properties, such as temperature. They are devices that respond to a physical stimulus (like heat, light, sound, pressure, magnetism, or a particular motion) and transmit a resulting impulse for detection and measurement. References: The use of sensors in cloud environments, particularly in IoT (Internet of Things) applications, is included in the technical domains of the CompTIA Cloud+ material.

NEW QUESTION 141

A company uses containers stored in Docker Hub to deploy workloads (or its IaaS infrastructure). The development team releases changes to the containers several times per hour. Which of the following should a cloud engineer do to prevent the proprietary code from being exposed to third parties?

- A. Use IaC to deploy the IaaS infrastructure.
- B. Convert the containers to VMs.
- C. Deploy the containers over SSH.

D. Use private repositories for the containers.

Answer: D

Explanation:

To prevent proprietary code from being exposed to third parties, a cloud engineer should use private repositories for the containers. Private repositories ensure that access to container images is restricted and controlled, unlike public repositories where images are accessible to anyone. References: The concept of using private repositories for protecting proprietary code is part of cloud security best practices, which is covered under the Governance, Risk, Compliance, and Security domain of the CompTIA Cloud+ certification.

NEW QUESTION 144

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 145

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 149

Which of the following is a field of computer science that enables computers to identify and understand objects and people in images and videos?

- A. Image reconstruction
- B. Facial recognition
- C. Natural language processing
- D. Computer vision

Answer: D

Explanation:

Computer vision is a field of computer science that enables computers to identify and understand objects and people in images and videos. It involves the development of systems that can capture and interpret visual information from the world, similar to the way humans do. References: The application of computer vision and its role in cloud services, particularly in relation to AI and machine learning capabilities, is discussed in CompTIA Cloud+.

NEW QUESTION 152

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 157

Which of the following best explains the concept of migrating from on premises to the cloud?

- A. The configuration of a dedicated pipeline to transfer content to a remote location

- B. The creation of virtual instances in an external provider to transfer operations of selected servers into a ne
- C. remotely managed environment
- D. The physical transportation, installation, and configuration of company IT equipment in a cloud services provider's facility
- E. The extension of company IT infrastructure to a managed service provider

Answer: B

Explanation:

Migrating from on-premises to the cloud generally involves creating virtual instances in an external provider's environment and transferring the operations of selected servers to this new, remotely managed setup. This process allows organizations to leverage the cloud provider's resources and services. References: The migration process and strategies are topics included in the Business Principles of Cloud Environments within the CompTIA Cloud+ curriculum.

NEW QUESTION 162

A group of cloud administrators frequently uses the same deployment template to recreate a cloud-based development environment. The administrators are unable to go back and review the history of changes they have made to the template. Which of the following cloud resource deployment concepts should the administrator start using?

- A. Drift detection
- B. Repeatability
- C. Documentation
- D. Versioning

Answer: D

Explanation:

Versioning is a concept that allows cloud administrators to keep track of the history of changes made to deployment templates or any other configuration file. By using version control systems, they can review previous versions, roll back to earlier configurations if necessary, and understand the evolution of the deployment template over time. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 163

A cloud networking engineer is troubleshooting the corporate office's network configuration. Employees in the IT and operations departments are unable to resolve IP addresses on all devices, and the IT department cannot establish a connection to other departments' subnets. The engineer identifies the following configuration currently in place to support the office network:

| Subnet | Department | Employees |
|--------------|------------|-----------|
| 10.1.20.1/24 | Finance | 50 |
| 10.1.30.1/24 | IT | 90 |
| 10.1.40.1/24 | Legal | 30 |
| 10.1.50.1/24 | Operations | 100 |

Each employee needs to connect to the network with a maximum of three hosts. Each subnet must be segregated, but the IT department must have the ability to communicate with all subnets. Which of the following meet the IP addressing and routing requirements? (Select two).

- A. Modifying the subnet mask to 255.255.254.0 for IT and operations departments
- B. Configuring static routing to allow access from each subnet to 10.1.40.1
- C. Modifying the BYOD policy to reduce the volume of devices that are allowed to connect to the corporate network
- D. Configuring static routing to allow access from 10.1.30.1 to each subnet
- E. Combining the subnets and increasing the allocation of IP addresses available to support three hosts for each employee
- F. Modifying the subnet mask to 255.255.255.128 for the IT and operations departments

Answer: DF

Explanation:

To meet the requirements of allowing the IT department to communicate with all subnets while keeping each department segregated and ensuring a maximum of three hosts per employee, two actions are required. First, configuring static routing from the IT subnet (10.1.30.1) to each of the other subnets would establish the necessary connectivity. Second, modifying the subnet mask to 255.255.255.128 for the IT and operations departments would provide the needed number of host addresses while maintaining subnet segregation. References: This solution is based on networking and subnetting principles, which are part of the foundational knowledge for cloud networking within the CompTIA Cloud+ framework.

NEW QUESTION 168

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 171

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.

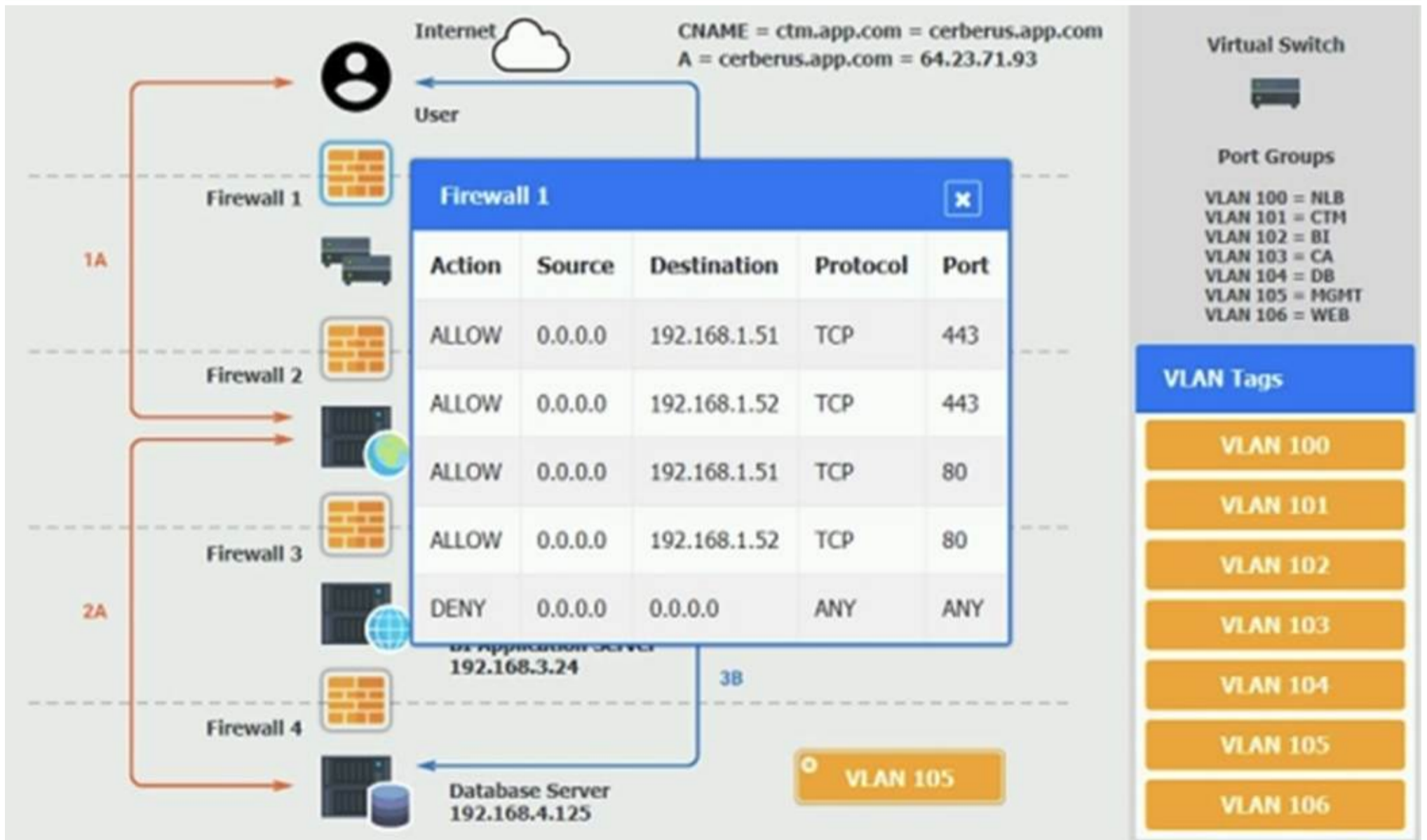
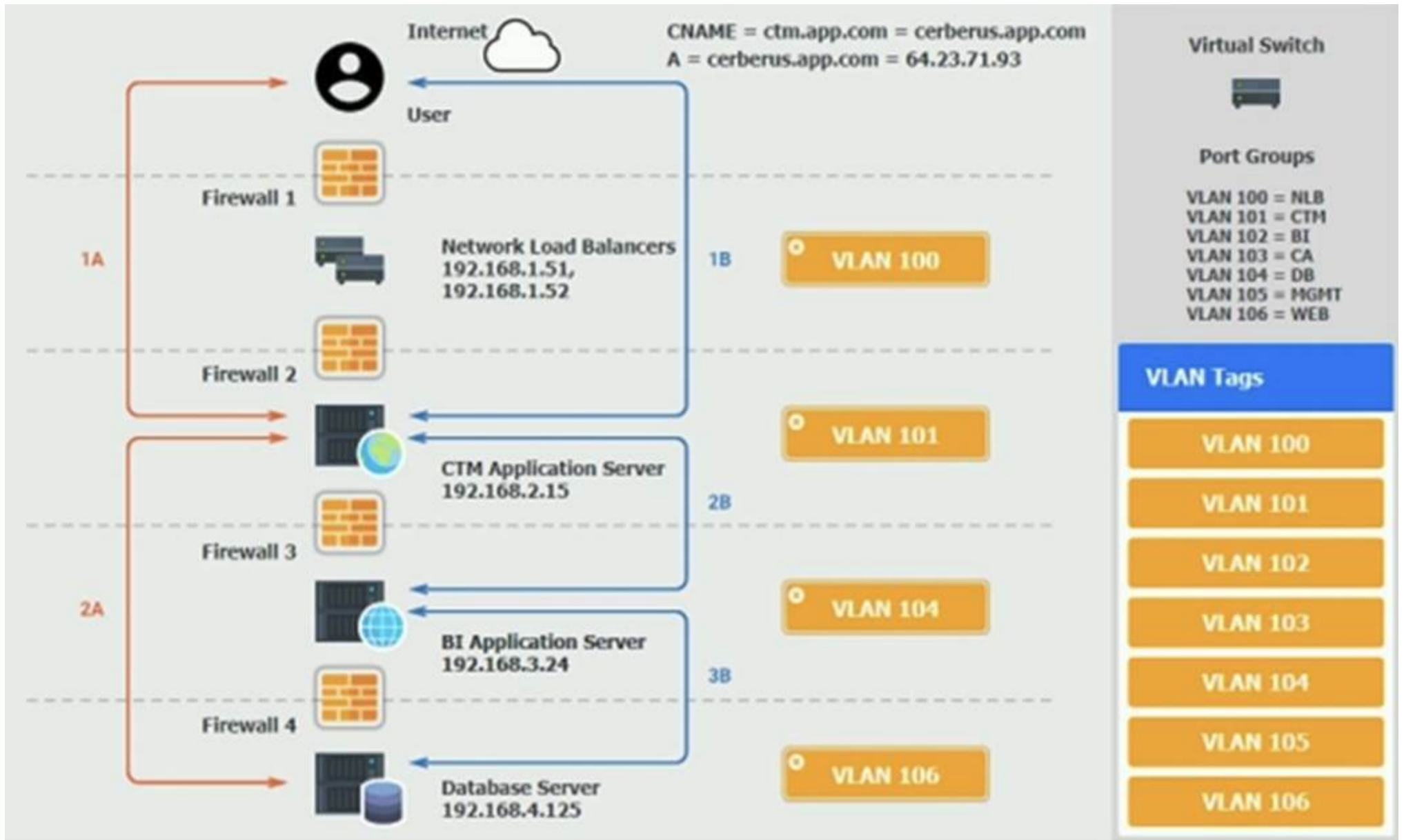
INSTRUCTIONS

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

Virtual Switch

Port Groups

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

VLAN Tags

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

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 | TCP | 80 |
| ALLOW | 0.0.0.0 | 127.0.0.1 | UDP | 88 |
| DENY | 64.23.71.93 | 64.23.71.93 | ANY | 443 |
| ALLOW | 192.168.1.51 | 192.168.1.51 | ANY | 1533 |
| DENY | 192.168.1.52 | 192.168.2.15 | UDP | 9400 |
| DENY | 192.168.2.15 | 192.168.2.24 | TCP | 443 |
| DENY | 192.168.2.24 | 192.168.3.24 | ANY | ANY |
| DENY | 192.168.3.24 | 0.0.0.0 | ANY | ANY |
| DENY | 192.168.4.125 | 0.0.0.0 | ANY | ANY |

Reset Answer Save Close

Database Server 192.168.4.125

VLAN 105

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 = MGMT
- VLAN 106 = WEB

VLAN Tags

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

Firewall 3

| Action | Source | Destination | Protocol | Port |
|--------|--------------|---------------|----------|------|
| DENY | 0.0.0.0 | 0.0.0.0 | ANY | ANY |
| ALLOW | 192.168.2.15 | 192.168.3.24 | TCP | 9400 |
| ALLOW | 192.168.2.15 | 192.168.4.125 | TCP | 1533 |

Reset Answer Save Close

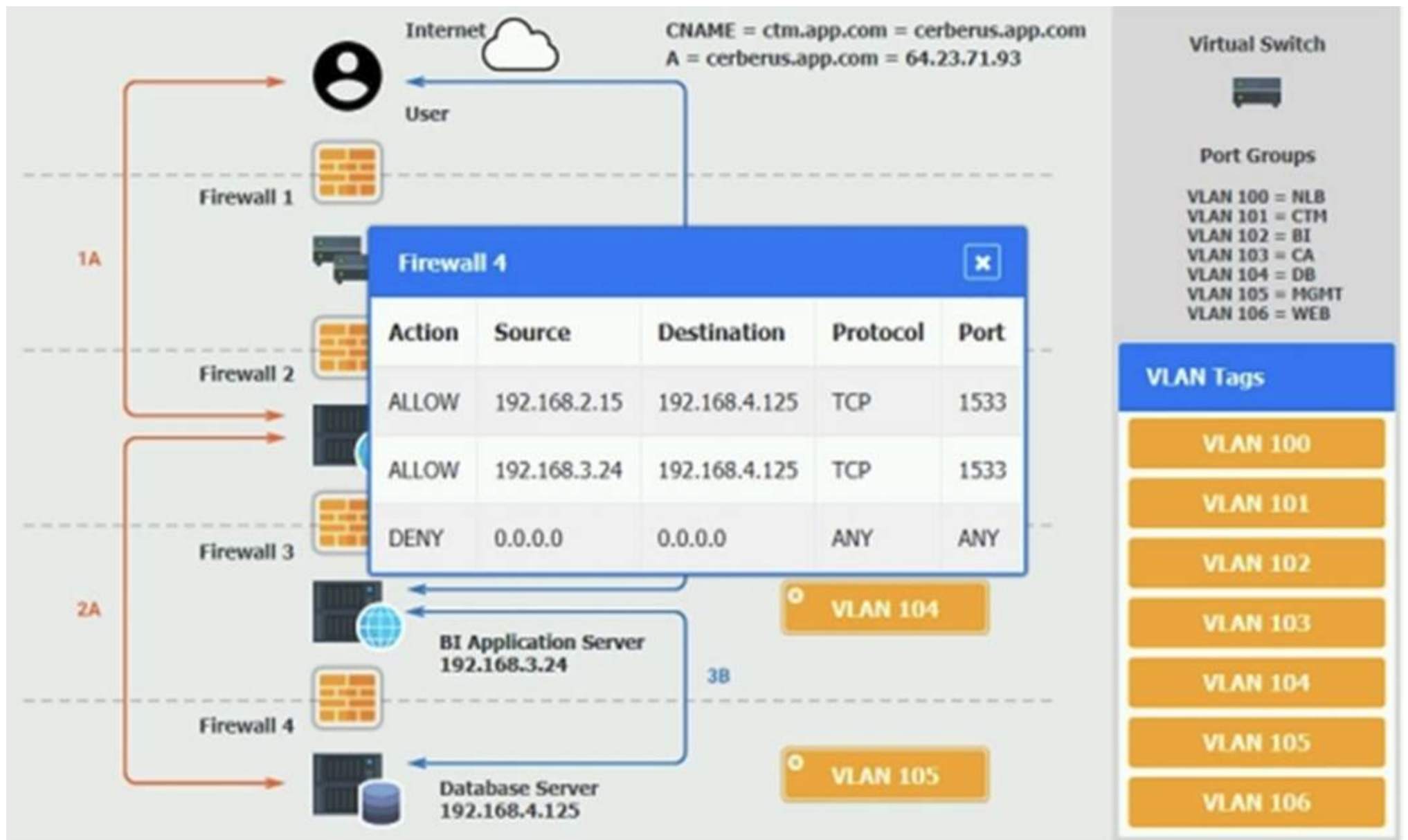
Application Server 192.168.3.24

3B

Database Server 192.168.4.125

VLAN 105

Firewall 4



- 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 174

Which of the following technologies should be used by a person who is visually impaired to access data from the cloud?

- A. Object character recognition
- B. Text-to-voice
- C. Sentiment analysis
- D. Visual recognition

Answer: B

Explanation:

Text-to-voice (or text-to-speech) technology should be used by a person who is visually impaired to access data from the cloud. It converts text data into audible speech, allowing visually impaired individuals to receive the information audibly. References: CompTIA Accessibility in IT Study Guide.

NEW QUESTION 178

Which of the following describes the main difference between public and private container repositories?

- A. Private container repository access requires authorization, while public repository access does not require authorization.
- B. Private container repositories are hidden by default and containers must be directly referenced, while public container repositories allow browsing of container images.
- C. Private container repositories must use proprietary licenses, while public container repositories must have open-source licenses.
- D. Private container repositories are used to obfuscate the content of the Dockerfile, while public container repositories allow for Dockerfile inspection.

Answer: A

Explanation:

The main difference between public and private container repositories lies in access control. Public repositories allow users to download and use container images without requiring any authorization, making them accessible to anyone. On the other hand, private repositories require users to have proper authorization, usually through credentials, to access the container images, thus providing a level of privacy and security control. References: CompTIA Cloud+ Guide to Cloud Computing (ISBN: 978-1-64274-282-2)

NEW QUESTION 179

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 183

Which of the following communication methods between on-premises and cloud environments would ensure minimal-to-low latency and overhead?

- A. Site-to-site VPN
- B. Peer-to-peer VPN
- C. Direct connection
- D. peering

Answer: C

Explanation:

A direct connection between on-premises and cloud environments involves a dedicated, private connection that does not traverse the public internet. This setup ensures minimal-to-low latency and overhead, providing more consistent network performance and reliability compared to other methods like VPNs or public internet connections, making it suitable for high-volume or latency-sensitive applications.

NEW QUESTION 186

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 190

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 193

A company receives files daily from a bank. The company requires that the files must be copied from the cloud storage resource to another cloud storage resource for further processing. Which of the following methods requires the least amount of effort to achieve the task?

- A. Remote procedure call
- B. SOAP
- C. Event-driven architecture
- D. REST

Answer: C

Explanation:

An event-driven architecture is the most efficient method for automating the task of copying files from one cloud storage resource to another upon their arrival. This architecture allows systems to automatically trigger actions based on specific events, such as the arrival of new files, minimizing manual effort and ensuring timely processing. References: CompTIA Cloud+ resources and cloud service architectures

NEW QUESTION 194

A DevOps engineer is performing maintenance on the mail servers for a company's web application. Part of this maintenance includes checking core operating system updates. The servers are currently running version 3.2 of the operating system. The engineer has two update options—one to version 4.1 and the other to version 3.7. Both versions are fully supported by the operating system manufacturer. Which of the following best describes the action the engineer should take?

- A. Upgrade to 3.7 in the development environment.
- B. Upgrade to 4.1 on one production server at a time.
- C. Read the release notes on version 4.1.
- D. Schedule a maintenance window and upgrade to 3.7 in the production environment.

Answer: A

Explanation:

Before making any updates to the production environment, the best course of action is to perform the update in a development or testing environment. Upgrading to version 3.7, which is a minor update, is generally less risky and should be tested first to ensure compatibility and stability before considering the major update to version 4.1. References: The process of updating and maintaining servers, including the validation of updates in a non-production environment, is part of the technical operations management covered in CompTIA Cloud+.

NEW QUESTION 196

A company's content management system (CMS) service runs on an IaaS cluster on a public cloud. The CMS service is frequently targeted by a malicious threat actor using DDoS.

Which of the following should a cloud engineer monitor to identify attacks?

- A. Network flow logs
- B. Endpoint detection and response logs
- C. Cloud provider event logs
- D. Instance syslog

Answer: A

Explanation:

To identify DDoS attacks against a CMS service, a cloud engineer should monitor network flow logs. These logs provide data about the IP traffic going to and from network interfaces in a public cloud, which is essential for detecting the increased traffic volumes typically associated with DDoS attacks. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Security in the Cloud

NEW QUESTION 201

Which of the following cloud deployment models is the best way to replicate a workload non-disruptively between on-premises servers and a public cloud?

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

Answer: D

Explanation:

A hybrid cloud deployment model is the best way to replicate workloads non-disruptively between on-premises servers and a public cloud. This model integrates on-premises infrastructure, or private clouds with public clouds, allowing data and applications to be shared between them. References: CompTIA Cloud+ Study Guide (Exam CV0-004) - Chapter on Cloud Deployment Models

NEW QUESTION 204

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 208

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