

Exam Questions AWS-Solution-Architect-Associate

Amazon AWS Certified Solutions Architect - Associate

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NEW QUESTION 1

- (Topic 4)

A company migrated a MySQL database from the company's on-premises data center to an Amazon RDS for MySQL DB instance. The company sized the RDS DB instance to meet the company's average daily workload. Once a month, the database performs slowly when the company runs queries for a report. The company wants to have the ability to run reports and maintain the performance of the daily workloads.

Which solution will meet these requirements?

- A. Create a read replica of the databases
- B. Direct the queries to the read replica.
- C. Create a backup of the databases
- D. Restore the backup to another DB instance
- E. Direct the queries to the new database.
- F. Export the data to Amazon S3. Use Amazon Athena to query the S3 bucket.
- G. Resize the DB instance to accommodate the additional workload.

Answer: C

Explanation:

Amazon Athena is a service that allows you to run SQL queries on data stored in Amazon S3. It is serverless, meaning you do not need to provision or manage any infrastructure. You only pay for the queries you run and the amount of data scanned¹.

By using Amazon Athena to query your data in Amazon S3, you can achieve the following benefits:

? You can run queries for your report without affecting the performance of your

Amazon RDS for MySQL DB instance. You can export your data from your DB instance to an S3 bucket and use Athena to query the data in the bucket. This way, you can avoid the overhead and contention of running queries on your DB instance.

? You can reduce the cost and complexity of running queries for your report. You do

not need to create a read replica or a backup of your DB instance, which would incur additional charges and require maintenance. You also do not need to resize your DB instance to accommodate the additional workload, which would increase your operational overhead.

? You can leverage the scalability and flexibility of Amazon S3 and Athena. You can

store large amounts of data in S3 and query them with Athena without worrying about capacity or performance limitations. You can also use different formats, compression methods, and partitioning schemes to optimize your data storage and query performance¹.

NEW QUESTION 2

- (Topic 4)

A company has two VPCs named Management and Production. The Management VPC uses VPNs through a customer gateway to connect to a single device in the data center. The Production VPC uses a virtual private gateway AWS Direct Connect connections. The Management and Production VPCs both use a single VPC peering connection to allow communication between the

What should a solutions architect do to mitigate any single point of failure in this architecture?

- A. Add a set of VPNs between the Management and Production VPCs.
- B. Add a second virtual private gateway and attach it to the Management VPC.
- C. Add a second set of VPNs to the Management VPC from a second customer gateway device.
- D. Add a second VPC peering connection between the Management VPC and the Production VPC.

Answer: C

Explanation:

This answer is correct because it provides redundancy for the VPN connection between the Management VPC and the data center. If one customer gateway device or one VPN tunnel becomes unavailable, the traffic can still flow over the second customer gateway device and the second VPN tunnel. This way, the single point of failure in the VPN connection is mitigated.

References:

? <https://docs.aws.amazon.com/vpn/latest/s2svpn/vpn-redundant-connection.html>

? <https://www.trendmicro.com/cloudoneconformity/knowledge-base/aws/VPC/vpn-tunnel-redundancy.html>

NEW QUESTION 3

- (Topic 4)

A company wants to use an AWS CloudFormation stack for its application in a test environment. The company stores the CloudFormation template in an Amazon S3 bucket that blocks public access. The company wants to grant CloudFormation access to the template in the S3 bucket based on specific user requests to create the test environment. The solution must follow security best practices.

Which solution will meet these requirements?

- A. Create a gateway VPC endpoint for Amazon S3. Configure the CloudFormation stack to use the S3 object URL
- B. Create an Amazon API Gateway REST API that has the S3 bucket as the target
- C. Configure the CloudFormation stack to use the API Gateway URL
- D. Create a presigned URL for the template object. Configure the CloudFormation stack to use the presigned URL.
- E. Allow public access to the template object in the S3 bucket
- F. Block the public access after the test environment is created

Answer: C

Explanation:

it allows CloudFormation to access the template in the S3 bucket without granting public access or creating additional resources. A presigned URL is a URL that is signed with the access key of an IAM user or role that has permission to access the object. The presigned URL can be used by anyone who receives it, but it expires after a specified time. By creating a presigned URL for the template object and configuring the CloudFormation stack to use it, the company can grant CloudFormation access to the template based on specific user requests and follow security best practices. References:

? Using Amazon S3 Presigned URLs

? Using Amazon S3 Buckets

NEW QUESTION 4

- (Topic 4)

A company has an application that uses Docker containers in its local data center. The application runs on a container host that stores persistent data in a volume on the host. The container instances use the stored persistent data. The company wants to move the application to a fully managed service because the company does not want to manage any servers or storage infrastructure. Which solution will meet these requirements?

- A. Use Amazon Elastic Kubernetes Service (Amazon EKS) with self-managed node
- B. Create an Amazon Elastic Block Store (Amazon EBS) volume attached to an Amazon EC2 instance
- C. Use the EBS volume as a persistent volume mounted in the containers.
- D. Use Amazon Elastic Container Service (Amazon ECS) with an AWS Fargate launch type
- E. Create an Amazon Elastic File System (Amazon EFS) volume
- F. Add the EFS volume as a persistent storage volume mounted in the containers.
- G. Use Amazon Elastic Container Service (Amazon ECS) with an AWS Fargate launch type
- H. Create an Amazon S3 bucket
- I. Map the S3 bucket as a persistent storage volume mounted in the containers.
- J. Use Amazon Elastic Container Service (Amazon ECS) with an Amazon EC2 launch type
- K. Create an Amazon Elastic File System (Amazon EFS) volume
- L. Add the EFS volume as a persistent storage volume mounted in the containers.

Answer: B

Explanation:

This solution meets the requirements because it allows the company to move the application to a fully managed service without managing any servers or storage infrastructure. AWS Fargate is a serverless compute engine for containers that runs the Amazon ECS tasks. With Fargate, the company does not need to provision, configure, or scale clusters of virtual machines to run containers. Amazon EFS is a fully managed file system that can be accessed by multiple containers concurrently. With EFS, the company does not need to provision and manage storage capacity. EFS provides a simple interface to create and configure file systems quickly and easily. The company can use the EFS volume as a persistent storage volume mounted in the containers to store the persistent data. The company can also use the EFS mount helper to simplify the mounting process. References: Amazon ECS on AWS Fargate, Using Amazon EFS file systems with Amazon ECS, Amazon EFS mount helper.

NEW QUESTION 5

- (Topic 4)

A company wants to analyze and generate reports to track the usage of its mobile app. The app is popular and has a global user base. The company uses a custom report building program to analyze application usage. The program generates multiple reports during the last week of each month. The program takes less than 10 minutes to produce each report. The company rarely uses the program to generate reports outside of the last week of each month. The company wants to generate reports in the least amount of time when the reports are requested. Which solution will meet these requirements MOST cost-effectively?

- A. Run the program by using Amazon EC2 On-Demand Instance
- B. Create an Amazon EventBridge rule to start the EC2 instances when reports are requested
- C. Run the EC2 instances continuously during the last week of each month.
- D. Run the program in AWS Lambda
- E. Create an Amazon EventBridge rule to run a Lambda function when reports are requested.
- F. Run the program in Amazon Elastic Container Service (Amazon ECS). Schedule Amazon ECS to run the program when reports are requested.
- G. Run the program by using Amazon EC2 Spot Instance
- H. Create an Amazon EventBridge rule to start the EC2 instances when reports are requested
- I. Run the EC2 instances continuously during the last week of each month.

Answer: B

Explanation:

This solution meets the requirements most cost-effectively because it leverages the serverless and event-driven capabilities of AWS Lambda and Amazon EventBridge. AWS Lambda allows you to run code without provisioning or managing servers, and you pay only for the compute time you consume. Amazon EventBridge is a serverless event bus service that lets you connect your applications with data from various sources and routes that data to targets such as AWS Lambda. By using Amazon EventBridge, you can create a rule that triggers a Lambda function to run the program when reports are requested, and you can also schedule the rule to run during the last week of each month. This way, you can generate reports in the least amount of time and pay only for the resources you use.

References:

- ? AWS Lambda
- ? Amazon EventBridge

NEW QUESTION 6

- (Topic 4)

A company containerized a Windows job that runs on .NET 6 Framework under a Windows container. The company wants to run this job in the AWS Cloud. The job runs every 10 minutes. The job's runtime varies between 1 minute and 3 minutes. Which solution will meet these requirements MOST cost-effectively?

- A. Create an AWS Lambda function based on the container image of the job
- B. Configure Amazon EventBridge to invoke the function every 10 minutes.
- C. Use AWS Batch to create a job that uses AWS Fargate resource
- D. Configure the job scheduling to run every 10 minutes.
- E. Use Amazon Elastic Container Service (Amazon ECS) on AWS Fargate to run the job
- F. Create a scheduled task based on the container image of the job to run every 10 minutes.
- G. Use Amazon Elastic Container Service (Amazon ECS) on AWS Fargate to run the job
- H. Create a standalone task based on the container image of the job
- I. Use Windows task scheduler to run the job every 10 minutes.

Answer: A

Explanation:

AWS Lambda supports container images as a packaging format for functions. You can use existing container development workflows to package and deploy Lambda functions as container images of up to 10 GB in size. You can also use familiar tools such as Docker CLI to build, test, and push your container images to Amazon Elastic Container Registry (Amazon ECR). You can then create an AWS Lambda function based on the container image of your job and configure Amazon EventBridge to invoke the function every 10 minutes using a cron expression. This solution will be cost-effective as you only pay for the compute time you consume when your function runs. References: <https://docs.aws.amazon.com/lambda/latest/dg/images-create.html>
<https://docs.aws.amazon.com/eventbridge/latest/userguide/run-lambda-schedule.html>

NEW QUESTION 7

- (Topic 4)

A company has a multi-tier payment processing application that is based on virtual machines (VMs). The communication between the tiers occurs asynchronously through a third-party middleware solution that guarantees exactly-once delivery.

The company needs a solution that requires the least amount of infrastructure management. The solution must guarantee exactly-once delivery for application messaging

Which combination of actions will meet these requirements? (Select TWO.)

- A. Use AWS Lambda for the compute layers in the architecture.
- B. Use Amazon EC2 instances for the compute layers in the architecture.
- C. Use Amazon Simple Notification Service (Amazon SNS) as the messaging component between the compute layers.
- D. Use Amazon Simple Queue Service (Amazon SQS) FIFO queues as the messaging component between the compute layers.
- E. Use containers that are based on Amazon Elastic Kubernetes Service (Amazon EKS) for the compute layers in the architecture.

Answer: AD

Explanation:

This solution meets the requirements because it requires the least amount of infrastructure management and guarantees exactly-once delivery for application messaging. AWS Lambda is a serverless compute service that lets you run code without provisioning or managing servers. You only pay for the compute time you consume. Lambda scales automatically with the size of your workload. Amazon SQS FIFO queues are designed to ensure that messages are processed exactly once, in the exact order that they are sent. FIFO queues have high availability and deliver messages in a strict first-in, first-out order. You can use Amazon SQS to decouple and scale microservices, distributed systems, and serverless applications. References: AWS Lambda, Amazon SQS FIFO queues

NEW QUESTION 8

- (Topic 4)

A company uses on-premises servers to host its applications. The company is running out of storage capacity. The applications use both block storage and NFS storage. The company needs a high-performing solution that supports local caching without re-architecting its existing applications.

Which combination of actions should a solutions architect take to meet these requirements? (Select TWO.)

- A. Mount Amazon S3 as a file system to the on-premises servers.
- B. Deploy an AWS Storage Gateway file gateway to replace NFS storage.
- C. Deploy AWS Snowball Edge to provision NFS mounts to on-premises servers.
- D. Deploy an AWS Storage Gateway volume gateway to replace the block storage
- E. Deploy Amazon Elastic File System (Amazon EFS) volumes and mount them to on-premises servers.

Answer: BD

Explanation:

<https://aws.amazon.com/storagegateway/file/>

File Gateway provides a seamless way to connect to the cloud in order to store application data files and backup images as durable objects in Amazon S3 cloud storage. File Gateway offers SMB or NFS-based access to data in Amazon S3 with local caching. It can be used for on-premises applications, and for Amazon EC2-based applications that need file protocol access to S3 object storage.

<https://aws.amazon.com/storagegateway/volume/>

Volume Gateway presents cloud-backed iSCSI block storage volumes to your on-premises applications. Volume Gateway stores and manages on-premises data in Amazon S3 on your behalf and operates in either cache mode or stored mode. In the cached Volume Gateway mode, your primary data is stored in Amazon S3, while retaining your frequently accessed data locally in the cache for low latency access.

NEW QUESTION 9

- (Topic 4)

A social media company runs its application on Amazon EC2 instances behind an Application Load Balancer (ALB). The ALB is the origin for an Amazon CloudFront distribution. The application has more than a billion images stored in an Amazon S3 bucket and processes thousands of images each second. The company wants to resize the images dynamically and serve appropriate formats to clients.

Which solution will meet these requirements with the LEAST operational overhead?

- A. Install an external image management library on an EC2 instance
- B. Use the image management library to process the images.
- C. Create a CloudFront origin request policy
- D. Use the policy to automatically resize images and to serve the appropriate format based on the User-Agent HTTP header in the request.
- E. Use a Lambda@Edge function with an external image management library
- F. Associate the Lambda@Edge function with the CloudFront behaviors that serve the images.
- G. Create a CloudFront response headers policy
- H. Use the policy to automatically resize images and to serve the appropriate format based on the User-Agent HTTP header in the request.

Answer: C

Explanation:

Lambda@Edge is a service that allows you to run Lambda functions at CloudFront edge locations. It can be used to modify requests and responses that flow through CloudFront. CloudFront origin request policy is a policy that controls the values (URL query strings, HTTP headers, and cookies) that are included in requests that CloudFront sends to the origin. It can be used to collect additional information at the origin or to customize the origin response. CloudFront response headers policy is a policy that specifies the HTTP headers that CloudFront removes or adds in responses that it sends to viewers. It can be used to add security or custom headers to responses.

Based on these definitions, the solution that will meet the requirements with the least operational overhead is:

* C. Use a Lambda@Edge function with an external image management library. Associate the Lambda@Edge function with the CloudFront behaviors that serve the images.
 This solution would allow the application to use a Lambda@Edge function to resize the images dynamically and serve appropriate formats to clients based on the User-Agent HTTP header in the request. The Lambda@Edge function would run at the edge locations, reducing latency and load on the origin. The application code would only need to include an external image management library that can perform image manipulation tasks¹.

NEW QUESTION 10

- (Topic 4)

A media company stores movies in Amazon S3. Each movie is stored in a single video file that ranges from 1 GB to 10 GB in size. The company must be able to provide the streaming content of a movie within 5 minutes of a user purchase. There is higher demand for movies that are less than 20 years old than for movies that are more than 20 years old. The company wants to minimize hosting service costs based on demand. Which solution will meet these requirements?

- A. Store all media content in Amazon S3. Use S3 Lifecycle policies to move media data into the Infrequent Access tier when the demand for a movie decreases.
- B. Store newer movie video files in S3 Standard Store older movie video files in S3 Standard-Infrequent Access (S3 Standard-IA). When a user orders an older movie, retrieve the video file by using standard retrieval.
- C. Store newer movie video files in S3 Intelligent-Tiering
- D. Store older movie video files in S3 Glacier Flexible Retrieval
- E. When a user orders an older movie, retrieve the video file by using expedited retrieval.
- F. Store newer movie video files in S3 Standard
- G. Store older movie video files in S3 Glacier Flexible Retrieval
- H. When a user orders an older movie, retrieve the video file by using bulk retrieval.

Answer: C

Explanation:

This solution will meet the requirements of minimizing hosting service costs based on demand and providing the streaming content of a movie within 5 minutes of a user purchase. S3 Intelligent-Tiering is a storage class that automatically optimizes storage costs by moving data to the most cost-effective access tier when access patterns change. It is suitable for data with unknown, changing, or unpredictable access patterns, such as newer movies that may have higher demand¹. S3 Glacier Flexible Retrieval is a storage class that provides low-cost storage for archive data that is retrieved asynchronously. It offers flexible data retrieval options from minutes to hours, and free bulk retrievals in 5-12 hours. It is ideal for backup, disaster recovery, and offsite data storage needs². By using expedited retrieval, the user can access the older movie video file in 1-5 minutes, which meets the requirement of 5 minutes³.

References: 1: Amazon S3 Intelligent-Tiering Storage Class | AWS⁴, Overview section 2: Amazon S3 Glacier Flexible Retrieval and Glacier Deep Archive Retrieval ...¹, Amazon S3 Glacier Flexible Retrieval section 3: Amazon S3 Glacier Flexible Retrieval and Glacier Deep Archive Retrieval ...¹, Retrieval Rates section.

NEW QUESTION 10

- (Topic 4)

A company hosts a multi-tier web application on Amazon Linux Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. The company observes that the Auto Scaling group launches more On-Demand Instances when the application's end users access high volumes of static web content. The company wants to optimize cost. What should a solutions architect do to redesign the application MOST cost-effectively?

- A. Update the Auto Scaling group to use Reserved Instances instead of On-Demand Instances.
- B. Update the Auto Scaling group to scale by launching Spot Instances instead of On-Demand Instances.
- C. Create an Amazon CloudFront distribution to host the static web contents from an Amazon S3 bucket.
- D. Create an AWS Lambda function behind an Amazon API Gateway API to host the static website contents.

Answer: C

Explanation:

This answer is correct because it meets the requirements of optimizing cost and reducing the workload on the database. Amazon CloudFront is a content delivery network (CDN) service that speeds up distribution of your static and dynamic web content, such as .html, .css, .js, and image files, to your users. CloudFront delivers your content through a worldwide network of data centers called edge locations. When a user requests content that you're serving with CloudFront, the request is routed to the edge location that provides the lowest latency (time delay), so that content is delivered with the best possible performance. You can create an Amazon CloudFront distribution to host the static web contents from an Amazon S3 bucket, which is an origin that you define for CloudFront. This way, you can offload the requests for static web content from your EC2 instances to CloudFront, which can improve the performance and availability of your website, and reduce the cost of running your EC2 instances.

References:

? <https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Introduction.html>

? <https://docs.aws.amazon.com/AmazonS3/latest/userguide/WebsiteHosting.html>

NEW QUESTION 15

- (Topic 4)

A company wants to securely exchange data between its software as a service (SaaS) application Salesforce account and Amazon S3. The company must encrypt the data at rest by using AWS Key Management Service (AWS KMS) customer managed keys (CMKs). The company must also encrypt the data in transit. The company has enabled API access for the Salesforce account. Which solution will meet these requirements with the LEAST development effort?

- A. Create AWS Lambda functions to transfer the data securely from Salesforce to Amazon S3.
- B. Create an AWS Step Functions workflow Define the task to transfer the data securely from Salesforce to Amazon S3.
- C. Create Amazon AppFlow flows to transfer the data securely from Salesforce to Amazon S3.
- D. Create a custom connector for Salesforce to transfer the data securely from Salesforce to Amazon S3.

Answer: C

Explanation:

Amazon AppFlow is a fully managed integration service that enables users to transfer data securely between SaaS applications and AWS services. It supports Salesforce as a source and Amazon S3 as a destination. It also supports encryption of data at rest using AWS KMS CMKs and encryption of data in transit using SSL/TLS¹. By using Amazon AppFlow, the solution can meet the requirements with the least development effort.

- * A. Create AWS Lambda functions to transfer the data securely from Salesforce to Amazon S3. This solution will not meet the requirement of the least development effort, as it involves writing custom code to interact with Salesforce and Amazon S3 APIs, handle authentication, encryption, error handling, and monitoring².
- * B. Create an AWS Step Functions workflow Define the task to transfer the data securely from Salesforce to Amazon S3. This solution will not meet the requirement of the least development effort, as it involves creating a state machine definition to orchestrate the data transfer task, and invoking Lambda functions or other services to perform the actual data transfer³.
- * D. Create a custom connector for Salesforce to transfer the data securely from Salesforce to Amazon S3. This solution will not meet the requirement of the least development effort, as it involves using the Amazon AppFlow Custom Connector SDK to build and deploy a custom connector for Salesforce, which requires additional configuration and management. Reference URL: <https://aws.amazon.com/appflow/>

NEW QUESTION 18

- (Topic 4)

A company has an organization in AWS Organizations that has all features enabled The company requires that all API calls and logins in any existing or new AWS account must be audited The company needs a managed solution to prevent additional work and to minimize costs The company also needs to know when any AWS account is not compliant with the AWS Foundational Security Best Practices (FSBP) standard.

Which solution will meet these requirements with the LEAST operational overhead?

- A. Deploy an AWS Control Tower environment in the Organizations management account Enable AWS Security Hub and AWS Control Tower Account Factory in the environment.
- B. Deploy an AWS Control Tower environment in a dedicated Organizations member account Enable AWS Security Hub and AWS Control Tower Account Factory in the environment.
- C. Use AWS Managed Services (AMS) Accelerate to build a multi-account landing zone (MALZ) Submit an RFC to self-service provision Amazon GuardDuty in the MALZ.
- D. Use AWS Managed Services (AMS) Accelerate to build a multi-account landing zone (MALZ) Submit an RFC to self-service provision AWS Security Hub in the MALZ.

Answer: A

Explanation:

AWS Control Tower is a fully managed service that simplifies the setup and governance of a secure, compliant, multi-account AWS environment. It establishes a landing zone that is based on best-practices blueprints, and it enables governance using controls you can choose from a pre-packaged list. The landing zone is a well-architected, multi-account baseline that follows AWS best practices. Controls implement governance rules for security, compliance, and operations. AWS Security Hub is a service that provides a comprehensive view of your security posture across your AWS accounts. It aggregates, organizes, and prioritizes security alerts and findings from multiple AWS services, such as Amazon GuardDuty, Amazon Inspector, Amazon Macie, AWS Firewall Manager, and AWS IAM Access Analyzer, as well as from AWS Partner solutions. AWS Security Hub continuously monitors your environment using automated compliance checks based on the AWS best practices and industry standards, such as the AWS Foundational Security Best Practices (FSBP) standard. AWS Control Tower Account Factory is a feature that automates the provisioning of new AWS accounts that are preconfigured to meet your business, security, and compliance requirements. By deploying an AWS Control Tower environment in the Organizations management account, you can leverage the existing organization structure and policies, and enable AWS Security Hub and AWS Control Tower Account Factory in the environment. This way, you can audit all API calls and logins in any existing or new AWS account, monitor the compliance status of each account with the FSBP standard, and provision new accounts with ease and consistency. This solution meets the requirements with the least operational overhead, as you do not need to manage any infrastructure, perform any data migration, or submit any requests for changes. References:

- ? AWS Control Tower
- ? [AWS Security Hub]
- ? [AWS Control Tower Account Factory]

NEW QUESTION 19

- (Topic 4)

A company runs an application on AWS. The application receives inconsistent amounts of usage. The application uses AWS Direct Connect to connect to an on-premises MySQL-compatible database. The on-premises database consistently uses a minimum of 2 GiB of memory.

The company wants to migrate the on-premises database to a managed AWS service. The company wants to use auto scaling capabilities to manage unexpected workload increases.

Which solution will meet these requirements with the LEAST administrative overhead?

- A. Provision an Amazon DynamoDB database with default read and write capacity settings.
- B. Provision an Amazon Aurora database with a minimum capacity of 1 Aurora capacity unit (ACU).
- C. Provision an Amazon Aurora Serverless v2 database with a minimum capacity of 1 Aurora capacity unit (ACU).
- D. Provision an Amazon RDS for MySQL database with 2 GiB of memory.

Answer: C

Explanation:

it allows the company to migrate the on-premises database to a managed AWS service that supports auto scaling capabilities and has the least administrative overhead. Amazon Aurora Serverless v2 is a configuration of Amazon Aurora that automatically scales compute capacity based on workload demand. It can scale from hundreds to hundreds of thousands of transactions in a fraction of a second. Amazon Aurora Serverless v2 also supports MySQL-compatible databases and AWS Direct Connect connectivity. References:

- ? Amazon Aurora Serverless v2
- ? Connecting to an Amazon Aurora DB Cluster

NEW QUESTION 20

- (Topic 4)

A company is designing a new web service that will run on Amazon EC2 instances behind an Elastic Load Balancing (ELB) load balancer. However, many of the web service clients can only reach IP addresses authorized on their firewalls.

What should a solutions architect recommend to meet the clients' needs?

- A. A Network Load Balancer with an associated Elastic IP address.
- B. An Application Load Balancer with an associated Elastic IP address.
- C. An A record in an Amazon Route 53 hosted zone pointing to an Elastic IP address.
- D. An EC2 instance with a public IP address running as a proxy in front of the load balancer.

Answer: A

Explanation:

A Network Load Balancer can be assigned one Elastic IP address for each Availability Zone it uses¹. This allows the clients to reach the load balancer using a static IP address that can be authorized on their firewalls. An Application Load Balancer cannot be assigned an Elastic IP address². An A record in an Amazon Route 53 hosted zone pointing to an Elastic IP address would not work because the load balancer would still use its own IP address as the source of the forwarded requests to the web service. An EC2 instance with a public IP address running as a proxy in front of the load balancer would add unnecessary complexity and cost, and would not provide the same scalability and availability as a Network Load Balancer. References: 1: Network Load Balancers - Elastic Load Balancing³, IP address type section²: How to assign Elastic IP to Application Load Balancer in AWS?⁴, answer section.

NEW QUESTION 25

- (Topic 4)

A company offers a food delivery service that is growing rapidly. Because of the growth, the company's order processing system is experiencing scaling problems during peak traffic hours. The current architecture includes the following:

- A group of Amazon EC2 instances that run in an Amazon EC2 Auto Scaling group to collect orders from the application
- Another group of EC2 instances that run in an Amazon EC2 Auto Scaling group to fulfill orders

The order collection process occurs quickly, but the order fulfillment process can take longer. Data must not be lost because of a scaling event.

A solutions architect must ensure that the order collection process and the order fulfillment process can both scale properly during peak traffic hours. The solution must optimize

utilization of the company's AWS resources. Which solution meets these requirements?

- A. Use Amazon CloudWatch metrics to monitor the CPU of each instance in the Auto Scaling group
- B. Configure each Auto Scaling group's minimum capacity according to peak workload values.
- C. Use Amazon CloudWatch metrics to monitor the CPU of each instance in the Auto Scaling group
- D. Configure a CloudWatch alarm to invoke an Amazon Simple Notification Service (Amazon SNS) topic that creates additional Auto Scaling groups on demand.
- E. Provision two Amazon Simple Queue Service (Amazon SQS) queues: one for order collection and another for order fulfillment
- F. Configure the EC2 instances to poll their respective queue
- G. Scale the Auto Scaling groups based on notifications that the queues send.
- H. Provision two Amazon Simple Queue Service (Amazon SQS) queues: one for order collection and another for order fulfillment
- I. Configure the EC2 instances to poll their respective queue
- J. Create a metric based on a backlog per instance calculation
- K. Scale the Auto Scaling groups based on this metric.

Answer: D

Explanation:

The number of instances in your Auto Scaling group can be driven by how long it takes to process a message and the acceptable amount of latency (queue delay). The solution is to use a backlog per instance metric with the target value being the acceptable backlog per instance to maintain.

NEW QUESTION 30

- (Topic 4)

A company has established a new AWS account. The account is newly provisioned and no changes have been made to the default settings. The company is concerned about the security of the AWS account root user.

What should be done to secure the root user?

- A. Create IAM users for daily administrative tasks
- B. Disable the root user.
- C. Create IAM users for daily administrative tasks
- D. Enable multi-factor authentication on the root user.
- E. Generate an access key for the root user Use the access key for daily administration tasks instead of the AWS Management Console.
- F. Provide the root user credentials to the most senior solutions architect
- G. Have the solutions architect use the root user for daily administration tasks.

Answer: B

Explanation:

This answer is the most secure and recommended option for securing the root user of a new AWS account. The root user is the identity that has complete access to all AWS services and resources in the account. It is accessed by signing in with the email address and password that were used to create the account. To protect the root user credentials from unauthorized use, AWS advises the following best practices:

? Create IAM users for daily administrative tasks. IAM users are identities that you create in your account that have specific permissions to access AWS resources. You can create individual IAM users for yourself and for others who need access to your account. You can also assign IAM users to IAM groups that have a set of policies that grant permissions to perform common tasks. By using IAM users instead of the root user, you can follow the principle of least privilege and reduce the risk of compromising your account.

? Enable multi-factor authentication (MFA) on the root user. MFA is a security feature that requires users to prove their identity by providing two pieces of information: their password and a code from a device that only they have access to. By enabling MFA on the root user, you can add an extra layer of protection to your account and prevent unauthorized access even if your password is compromised.

? Limit the tasks you perform with the root user account. You should use the root user only for tasks that require root user credentials, such as changing your account settings, closing your account, or managing consolidated billing. For a complete list of tasks that require root user credentials, see Tasks that require root user credentials. For all other tasks, you should use IAM users or roles that have the appropriate permissions.

References:

- ? AWS account root user
- ? Root user best practices for your AWS account
- ? Tasks that require root user credentials

NEW QUESTION 32

- (Topic 4)

A company has an on-premises server that uses an Oracle database to process and store customer information. The company wants to use an AWS database service to achieve higher availability and to improve application performance. The company also wants to offload reporting from its primary database system.

Which solution will meet these requirements in the MOST operationally efficient way?

- A. Use AWS Database Migration Service (AWS DMS) to create an Amazon RDS DB instance in multiple AWS Regions Point the reporting functions toward a separate DB instance from the primary DB instance.
- B. Use Amazon RDS in a Single-AZ deployment to create an Oracle database Create a read replica in the same zone as the primary DB instance
- C. Direct the reporting functions to the read replica.
- D. Use Amazon RDS deployed in a Multi-AZ cluster deployment to create an Oracle database Direct the reporting functions to use the reader instance in the cluster deployment
- E. Use Amazon RDS deployed in a Multi-AZ instance deployment to create an Amazon Aurora database
- F. Direct the reporting functions to the reader instances.

Answer: D

Explanation:

Amazon Aurora is a fully managed relational database that is compatible with MySQL and PostgreSQL. It provides up to five times better performance than MySQL and up to three times better performance than PostgreSQL. It also provides high availability and durability by replicating data across multiple Availability Zones and continuously backing up data to Amazon S3. By using Amazon RDS deployed in a Multi-AZ instance deployment to create an Amazon Aurora database, the solution can achieve higher availability and improve application performance. Amazon Aurora supports read replicas, which are separate instances that share the same underlying storage as the primary instance. Read replicas can be used to offload read-only queries from the primary instance and improve performance. Read replicas can also be used for reporting functions. By directing the reporting functions to the reader instances, the solution can offload reporting from its primary database system.

* A. Use AWS Database Migration Service (AWS DMS) to create an Amazon RDS DB instance in multiple AWS Regions Point the reporting functions toward a separate DB instance from the primary DB instance. This solution will not meet the requirement of using an AWS database service, as AWS DMS is a service that helps users migrate databases to AWS, not a database service itself. It also involves creating multiple DB instances in different Regions, which may increase complexity and cost.

* B. Use Amazon RDS in a Single-AZ deployment to create an Oracle database Create a read replica in the same zone as the primary DB instance. Direct the reporting functions to the read replica. This solution will not meet the requirement of achieving higher availability, as a Single-AZ deployment does not provide failover protection in case of an Availability Zone outage. It also involves using Oracle as the database engine, which may not provide better performance than Aurora.

* C. Use Amazon RDS deployed in a Multi-AZ cluster deployment to create an Oracle database Direct the reporting functions to use the reader instance in the cluster deployment. This solution will not meet the requirement of improving application performance, as Oracle may not provide better performance than Aurora. It also involves using a cluster deployment, which is only supported for Aurora, not for Oracle. Reference URL: <https://aws.amazon.com/rds/aurora/>

NEW QUESTION 34

- (Topic 4)

A manufacturing company runs its report generation application on AWS. The application generates each report in about 20 minutes. The application is built as a monolith that runs on a single Amazon EC2 instance. The application requires frequent updates to its tightly coupled modules. The application becomes complex to maintain as the company adds new features.

Each time the company patches a software module, the application experiences downtime. Report generation must restart from the beginning after any interruptions. The company wants to redesign the application so that the application can be flexible, scalable, and gradually improved. The company wants to minimize application downtime.

Which solution will meet these requirements?

- A. Run the application on AWS Lambda as a single function with maximum provisioned concurrency.
- B. Run the application on Amazon EC2 Spot Instances as microservices with a Spot Fleet default allocation strategy.
- C. Run the application on Amazon Elastic Container Service (Amazon ECS) as microservices with service auto scaling.
- D. Run the application on AWS Elastic Beanstalk as a single application environment with an all-at-once deployment strategy.

Answer: C

Explanation:

The solution that will meet the requirements is to run the application on Amazon Elastic Container Service (Amazon ECS) as microservices with service auto scaling. This solution will allow the application to be flexible, scalable, and gradually improved, as well as minimize application downtime. By breaking down the monolithic application into microservices, the company can decouple the modules and update them independently, without affecting the whole application. By running the microservices on Amazon ECS, the company can leverage the benefits of containerization, such as portability, efficiency, and isolation. By enabling service auto scaling, the company can adjust the number of containers running for each microservice based on demand, ensuring optimal performance and cost. Amazon ECS also supports various deployment strategies, such as rolling update or blue/green deployment, that can reduce or eliminate downtime during updates.

The other solutions are not as effective as the first one because they either do not meet the requirements or introduce new challenges. Running the application on AWS Lambda as a single function with maximum provisioned concurrency will not meet the requirements, as it will not break down the monolith into microservices, nor will it reduce the complexity of maintenance. Lambda functions are also limited by execution time (15 minutes), memory size (10 GB), and concurrency quotas, which may not be sufficient for the report generation application. Running the application on Amazon EC2 Spot Instances as microservices with a Spot Fleet default allocation strategy will not meet the requirements, as it will introduce the risk of interruptions due to spot price fluctuations. Spot Instances are not guaranteed to be available or stable, and may be reclaimed by AWS at any time with a two-minute warning. This may cause report generation to fail or restart from scratch. Running the application on AWS Elastic Beanstalk as a single application environment with an all-at-once deployment strategy will not meet the requirements, as it will not break down the monolith into microservices, nor will it minimize application downtime. The all-at-once deployment strategy will deploy updates to all instances simultaneously, causing a brief outage for the application.

References:

- ? Amazon Elastic Container Service
- ? Microservices on AWS
- ? Service Auto Scaling - Amazon Elastic Container Service
- ? AWS Lambda
- ? Amazon EC2 Spot Instances
- ? [AWS Elastic Beanstalk]

NEW QUESTION 39

- (Topic 4)

A company wants to move from many standalone AWS accounts to a consolidated, multi-account architecture. The company plans to create many new AWS accounts for different business units. The company needs to authenticate access to these AWS accounts by using a centralized corporate directory service.

Which combination of actions should a solutions architect recommend to meet these requirements? (Select TWO.)

- A. Create a new organization in AWS Organizations with all features turned on.
- B. Create the new AWS accounts in the organization.
- C. Set up an Amazon Cognito identity pool.
- D. Configure AWS IAM Identity Center (AWS Single Sign-On) to accept Amazon Cognito authentication.
- E. Configure a service control policy (SCP) to manage the AWS account.
- F. Add AWS IAM Identity Center (AWS Single Sign-On) to AWS Directory Service.
- G. Create a new organization in AWS Organization.
- H. Configure the organization's authentication mechanism to use AWS Directory Service directly.
- I. Set up AWS IAM Identity Center (AWS Single Sign-On) in the organization.
- J. Configure IAM Identity Center, and integrate it with the company's corporate directory service.

Answer: AE

Explanation:

AWS Organizations is a service that helps users centrally manage and govern multiple AWS accounts. It allows users to create organizational units (OUs) to group accounts based on business needs or other criteria. It also allows users to define and attach service control policies (SCPs) to OUs or accounts to restrict the actions that can be performed by the accounts¹. By creating a new organization in AWS Organizations with all features turned on, the solution can consolidate and manage the new AWS accounts for different business units.

AWS IAM Identity Center (formerly known as AWS Single Sign-On) is a service that provides single sign-on access for all of your AWS accounts and cloud applications. It connects with Microsoft Active Directory through AWS Directory Service to allow users in that directory to sign in to a personalized AWS access portal using their existing Active Directory user names and passwords. From the AWS access portal, users have access to all the AWS accounts and cloud applications that they have permissions for². By setting up IAM Identity Center in the organization and integrating it with the company's corporate directory service, the solution can authenticate access to these AWS accounts using a centralized corporate directory service.

* B. Set up an Amazon Cognito identity pool. Configure AWS IAM Identity Center (AWS Single Sign-On) to accept Amazon Cognito authentication. This solution will not meet the requirement of authenticating access to these AWS accounts by using a centralized corporate directory service, as Amazon Cognito is a service that provides user sign-up, sign-in, and access control for web and mobile applications, not for corporate directory services³.

* C. Configure a service control policy (SCP) to manage the AWS accounts. Add AWS IAM Identity Center (AWS Single Sign-On) to AWS Directory Service. This solution will not work, as SCPs are used to restrict the actions that can be performed by the accounts in an organization, not to manage the accounts themselves¹. Also, IAM Identity Center cannot be added to AWS Directory Service, as it is a separate service that connects with Microsoft Active Directory through AWS Directory Service².

* D. Create a new organization in AWS Organizations. Configure the organization's authentication mechanism to use AWS Directory Service directly. This solution will not work, as AWS Organizations does not have an authentication mechanism that can use AWS Directory Service directly. AWS Organizations relies on IAM Identity Center to provide single sign-on access for the accounts in an organization.

Reference URL: https://docs.aws.amazon.com/organizations/latest/userguide/orgs_integrate_services.html

NEW QUESTION 40

- (Topic 4)

A company runs a highly available SFTP service. The SFTP service uses two Amazon EC2

Linux instances that run with elastic IP addresses to accept traffic from trusted IP sources on the internet. The SFTP service is backed by shared storage that is attached to the instances. User accounts are created and managed as Linux users in the SFTP servers.

The company wants a serverless option that provides high IOPS performance and highly configurable security. The company also wants to maintain control over user permissions.

Which solution will meet these requirements?

- A. Create an encrypted Amazon Elastic Block Store (Amazon EBS) volume.
- B. Create an AWS Transfer Family SFTP service with a public endpoint that allows only trusted IP addresses.
- C. Attach the EBS volume to the SFTP service endpoint.
- D. Grant users access to the SFTP service.
- E. Create an encrypted Amazon Elastic File System (Amazon EFS) volume.
- F. Create an AWS Transfer Family SFTP service with elastic IP addresses and a VPC endpoint that has internet-facing access.
- G. Attach a security group to the endpoint that allows only trusted IP addresses.
- H. Attach the EFS volume to the SFTP service endpoint.
- I. Grant users access to the SFTP service.
- J. Create an Amazon S3 bucket with default encryption enabled.
- K. Create an AWS Transfer Family SFTP service with a public endpoint that allows only trusted IP addresses.
- L. Attach the S3 bucket to the SFTP service endpoint.
- M. Grant users access to the SFTP service.
- N. Create an Amazon S3 bucket with default encryption enabled.
- O. Create an AWS Transfer Family SFTP service with a VPC endpoint that has internal access in a private subnet.
- P. Attach a security group that allows only trusted IP addresses.
- Q. Attach the S3 bucket to the SFTP service endpoint.
- R. Grant users access to the SFTP service.

Answer: C

Explanation:

AWS Transfer Family is a secure transfer service that enables you to transfer files into and out of AWS storage services using SFTP, FTPS, FTP, and AS2 protocols. You can use AWS Transfer Family to create an SFTP-enabled server with a public endpoint that allows only trusted IP addresses. You can also attach an Amazon S3 bucket with default encryption enabled to the SFTP service endpoint, which will provide high IOPS performance and highly configurable security for your data at rest. You can also maintain control over user permissions by granting users access to the SFTP service using IAM roles or service-managed identities. References: <https://docs.aws.amazon.com/transfer/latest/userguide/what-is-aws-transfer-family.html>

<https://docs.aws.amazon.com/transfer/latest/userguide/create-server-s3.html>

NEW QUESTION 43

- (Topic 4)

A company is using an Application Load Balancer (ALB) to present its application to the internet. The company finds abnormal traffic access patterns across the application. A solutions architect needs to improve visibility into the infrastructure to help the company understand these abnormalities better.

What is the MOST operationally efficient solution that meets these requirements?

- A. Create a table in Amazon Athena for AWS CloudTrail log.
- B. Create a query for the relevant information.

- C. Enable ALB access logging to Amazon S3. Create a table in Amazon Athena, and query the logs.
- D. Enable ALB access logging to Amazon S3 Open each file in a text editor, and search each line for the relevant information
- E. Use Amazon EMR on a dedicated Amazon EC2 instance to directly query the ALB to acquire traffic access log information.

Answer: B

Explanation:

This solution meets the requirements because it allows the company to improve visibility into the infrastructure by using ALB access logging and Amazon Athena. ALB access logging is a feature that captures detailed information about requests sent to the load balancer, such as the client's IP address, request path, response code, and latency. By enabling ALB access logging to Amazon S3, the company can store the access logs in an S3 bucket as compressed files. Amazon Athena is an interactive query service that makes it easy to analyze data in Amazon S3 using standard SQL. By creating a table in Amazon Athena for the access logs, the company can query the logs and get results in seconds. This way, the company can better understand the abnormal traffic access patterns across the application.

References:

- ? Access logs for your Application Load Balancer
- ? Querying Application Load Balancer Logs

NEW QUESTION 44

- (Topic 4)

A company uses Amazon EC2 instances to host its internal systems. As part of a deployment operation, an administrator tries to use the AWS CLI to terminate an EC2 instance. However, the administrator receives a 403 (Access Denied) error message.

The administrator is using an IAM role that has the following IAM policy attached:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": ["ec2:TerminateInstances"],
      "Resource": ["*"]
    },
    {
      "Effect": "Deny",
      "Action": ["ec2:TerminateInstances"],
      "Condition": {
        "NotIpAddress": {
          "aws:SourceIp": [
            "192.0.2.0/24",
            "203.0.113.0/24"
          ]
        }
      }
    },
    {
      "Resource": ["*"]
    }
  ]
}
```

What is the cause of the unsuccessful request?

- A. The EC2 instance has a resource-based policy with a Deny statement.
- B. The principal has not been specified in the policy statement
- C. The "Action" field does not grant the actions that are required to terminate the EC2 instance.
- D. The request to terminate the EC2 instance does not originate from the CIDR blocks 192.0.2.0/24 or 203.0.113.0/24

Answer: D

NEW QUESTION 47

- (Topic 4)

A company is implementing new data retention policies for all databases that run on Amazon RDS DB instances. The company must retain daily backups for a minimum period of 2 years. The backups must be consistent and restorable.

Which solution should a solutions architect recommend to meet these requirements?

- A. Create a backup vault in AWS Backup to retain RDS backup
- B. Create a new backup plan with a daily schedule and an expiration period of 2 years after creatio
- C. Assign the RDS DB instances to the backup plan.
- D. Configure a backup window for the RDS DB instances for daily snapshot
- E. Assign a snapshot retention policy of 2 years to each RDS DB instanc
- F. Use Amazon Data Lifecycle Manager (Amazon DLM) to schedule snapshot deletions.
- G. Configure database transaction logs to be automatically backed up to Amazon CloudWatch Logs with an expiration period of 2 years.
- H. Configure an AWS Database Migration Service (AWS DMS) replication tas
- I. Deploy a replication instance, and configure a change data capture (CDC) task to stream database changes to Amazon S3 as the target

J. Configure S3 Lifecycle policies to delete the snapshots after 2 years.

Answer: A

Explanation:

AWS Backup is a fully managed service that enables users to centralize and automate the backup of data across AWS services. It can create and manage backup plans that specify the frequency and retention period of backups. It can also assign backup resources to backup vaults, which are containers that store backup data¹. By using AWS Backup, the solution can ensure that the RDS backups are consistent, restorable, and retained for a minimum period of 2 years.

* B. Configure a backup window for the RDS DB instances for daily snapshots. Assign a snapshot retention policy of 2 years to each RDS DB instance. Use Amazon Data Lifecycle Manager (Amazon DLM) to schedule snapshot deletions. This solution will not meet the requirement of ensuring that the backups are consistent and restorable, as Amazon DLM is not compatible with RDS snapshots and cannot be used to schedule snapshot deletions².

* C. Configure database transaction logs to be automatically backed up to Amazon CloudWatch Logs with an expiration period of 2 years. This solution will not meet the requirement of ensuring that the backups are consistent and restorable, as database transaction logs are not sufficient to restore a database to a point in time. They only capture the changes made to the database, not the full state of the database³.

* D. Configure an AWS Database Migration Service (AWS DMS) replication task. Deploy a replication instance, and configure a change data capture (CDC) task to stream database changes to Amazon S3 as the target. Configure S3 Lifecycle policies to delete the snapshots after 2 years. This solution will not meet the requirement of ensuring that the backups are consistent and restorable, as AWS DMS is a service that helps users migrate databases to AWS, not back up databases. It also requires additional resources and configuration, such as replication instances and CDC tasks.

Reference URL: <https://docs.aws.amazon.com/aws-backup/latest/devguide/whatisbackup.html>

NEW QUESTION 52

- (Topic 4)

A recent analysis of a company's IT expenses highlights the need to reduce backup costs. The company's chief information officer wants to simplify the on-premises backup infrastructure and reduce costs by eliminating the use of physical backup tapes. The company must preserve the existing investment in the on-premises backup applications and workflows.

What should a solutions architect recommend?

- A. Set up AWS Storage Gateway to connect with the backup applications using the NFS interface.
- B. Set up an Amazon EFS file system that connects with the backup applications using the NFS interface.
- C. Set up an Amazon EFS file system that connects with the backup applications using the iSCSI interface.
- D. Set up AWS Storage Gateway to connect with the backup applications using the iSCSI- virtual tape library (VTL) interface.

Answer: D

Explanation:

it allows the company to simplify the on-premises backup infrastructure and reduce costs by eliminating the use of physical backup tapes. By setting up AWS Storage Gateway to connect with the backup applications using the iSCSI-virtual tape library (VTL) interface, the company can store backup data on virtual tapes in S3 or Glacier. This preserves the existing investment in the on-premises backup applications and workflows while leveraging AWS storage services.

References:

? AWS Storage Gateway

? Tape Gateway

NEW QUESTION 54

- (Topic 4)

A company wants to migrate an on-premises legacy application to AWS. The application ingests customer order files from an on-premises enterprise resource planning (ERP) system. The application then uploads the files to an SFTP server. The application uses a scheduled job that checks for order files every hour. The company already has an AWS account that has connectivity to the on-premises network. The new application on AWS must support integration with the existing ERP system. The new application must be secure and resilient and must use the SFTP protocol to process orders from the ERP system immediately. Which solution will meet these requirements?

- A. Create an AWS Transfer Family SFTP internet-facing server in two Availability Zone
- B. Use Amazon S3 storag
- C. Create an AWS Lambda function to process order file
- D. Use S3 Event Notifications to send s3: ObjectCreated: * events to the Lambda function.
- E. Create an AWS Transfer Family SFTP internet-facing server in one Availability Zon
- F. Use Amazon Elastic File System (Amazon EFS) storag
- G. Create an AWS Lambda function to process order file
- H. Use a Transfer Family managed workflow to invoke the Lambda function.
- I. Create an AWS Transfer Family SFTP internal server in two Availability Zone
- J. Use Amazon Elastic File System (Amazon EFS) storag
- K. Create an AWS Step Functions state machine to process order file
- L. Use Amazon EventBridge Scheduler to invoke the state machine to periodically check Amazon EFS for order files.
- M. Create an AWS Transfer Family SFTP internal server in two Availability Zone
- N. Use Amazon S3 storag
- O. Create an AWS Lambda function to process order file
- P. Use a Transfer Family managed workflow to invoke the Lambda function.

Answer: D

Explanation:

This solution meets the requirements because it uses the following components and features:

? AWS Transfer Family SFTP internal server: This allows the application to securely

transfer order files from the on-premises ERP system to AWS using the SFTP protocol over a private connection. The internal server is deployed in two Availability Zones for high availability and fault tolerance.

? Amazon S3 storage: This provides scalable, durable, and cost-effective object

storage for the order files. Amazon S3 also supports encryption at rest and in transit, as well as lifecycle policies and versioning for data protection and compliance.

? AWS Lambda function: This enables the application to process the order files in a

serverless manner, without provisioning or managing servers. The Lambda function can perform any custom logic or transformation on the order files, such as validating, parsing, or enriching the data.

? Transfer Family managed workflow: This simplifies the orchestration of the file

processing tasks by triggering the Lambda function as soon as a file is uploaded to the SFTP server. The managed workflow also provides error handling, retry policies, and logging capabilities.

NEW QUESTION 58

- (Topic 4)

A company is building an Amazon Elastic Kubernetes Service (Amazon EKS) cluster for its workloads. All secrets that are stored in Amazon EKS must be encrypted in the Kubernetes etcd key-value store.

Which solution will meet these requirements?

- A. Create a new AWS Key Management Service (AWS KMS) key Use AWS Secrets Manager to manage rotate, and store all secrets in Amazon EKS.
- B. Create a new AWS Key Management Service (AWS KMS) key Enable Amazon EKS KMS secrets encryption on the Amazon EKS cluster.
- C. Create the Amazon EKS cluster with default options Use the Amazon Elastic Block Store (Amazon EBS) Container Storage Interface (CSI) driver as an add-on.
- D. Create a new AWS Key Management Service (AWS KMS) key with the alias aws/ebs alias Enable default Amazon Elastic Block Store (Amazon EBS) volume encryption for the account.

Answer: B

Explanation:

This option is the most secure and simple way to encrypt the secrets that are stored in Amazon EKS. AWS Key Management Service (AWS KMS) is a service that allows you to create and manage encryption keys that can be used to encrypt your data. Amazon EKS KMS secrets encryption is a feature that enables you to use a KMS key to encrypt the secrets that are stored in the Kubernetes etcd key-value store. This provides an additional layer of protection for your sensitive data, such as passwords, tokens, and keys. You can create a new KMS key or use an existing one, and then enable the Amazon EKS KMS secrets encryption on the Amazon EKS cluster. You can also use IAM policies to control who can access or use the KMS key.

Option A is not correct because using AWS Secrets Manager to manage, rotate, and store all secrets in Amazon EKS is not necessary or efficient. AWS Secrets Manager is a service that helps you securely store, retrieve, and rotate your secrets, such as database credentials, API keys, and passwords. You can use it to manage secrets that are used by your applications or services outside of Amazon EKS, but it is not designed to encrypt the secrets that are stored in the Kubernetes etcd key-value store. Moreover, using AWS Secrets Manager would incur additional costs and complexity, and it would not leverage the native Kubernetes secrets management capabilities.

Option C is not correct because using the Amazon EBS Container Storage Interface (CSI) driver as an add-on does not encrypt the secrets that are stored in Amazon EKS. The Amazon EBS CSI driver is a plugin that allows you to use Amazon EBS volumes as persistent storage for your Kubernetes pods. It is useful for providing durable and scalable storage for your applications, but it does not affect the encryption of the secrets that are stored in the Kubernetes etcd key-value store. Moreover, using the Amazon EBS CSI driver would require additional configuration and resources, and it would not provide the same level of security as using a KMS key.

Option D is not correct because creating a new AWS KMS key with the alias aws/ebs and enabling default Amazon EBS volume encryption for the account does not encrypt the secrets that are stored in Amazon EKS. The alias aws/ebs is a reserved alias that is used by AWS to create a default KMS key for your account. This key is used to encrypt the Amazon EBS volumes that are created in your account, unless you specify a different KMS key. Enabling default Amazon EBS volume encryption for the account is a setting that ensures that all new Amazon EBS volumes are encrypted by default. However, these features do not affect the encryption of the secrets that are stored in the Kubernetes etcd key-value store. Moreover, using the default KMS key or the default encryption setting would not provide the same level of control and security as using a custom KMS key and enabling the Amazon EKS KMS secrets encryption feature. References:

- ? Encrypting secrets used in Amazon EKS
- ? What Is AWS Key Management Service?
- ? What Is AWS Secrets Manager?
- ? Amazon EBS CSI driver
- ? Encryption at rest

NEW QUESTION 60

- (Topic 4)

A solutions architect is designing a new API using Amazon API Gateway that will receive requests from users. The volume of requests is highly variable; several hours can pass without receiving a single request. The data processing will take place asynchronously, but should be completed within a few seconds after a request is made.

Which compute service should the solutions architect have the API invoke to deliver the requirements at the lowest cost?

- A. An AWS Glue job
- B. An AWS Lambda function
- C. A containerized service hosted in Amazon Elastic Kubernetes Service (Amazon EKS)
- D. A containerized service hosted in Amazon ECS with Amazon EC2

Answer: B

Explanation:

API Gateway + Lambda is the perfect solution for modern applications with serverless architecture.

NEW QUESTION 61

- (Topic 4)

A company is developing a new machine learning (ML) model solution on AWS. The models are developed as independent microservices that fetch approximately 1 GB of model data from Amazon S3 at startup and load the data into memory. Users access the models through an asynchronous API. Users can send a request or a batch of requests and specify where the results should be sent.

The company provides models to hundreds of users. The usage patterns for the models are irregular. Some models could be unused for days or weeks. Other models could receive batches of thousands of requests at a time.

Which design should a solutions architect recommend to meet these requirements?

- A. Direct the requests from the API to a Network Load Balancer (NLB). Deploy the models as AWS Lambda functions that are invoked by the NLB.
- B. Direct the requests from the API to an Application Load Balancer (ALB). Deploy the models as Amazon Elastic Container Service (Amazon ECS) services that read from an Amazon Simple Queue Service (Amazon SQS) queue
- C. Use AWS App Mesh to scale the instances of the ECS cluster based on the SQS queue size.
- D. Direct the requests from the API into an Amazon Simple Queue Service (Amazon SQS) queue
- E. Deploy the models as AWS Lambda functions that are invoked by SQS event
- F. Use AWS Auto Scaling to increase the number of vCPUs for the Lambda functions based on the SQS queue size.
- G. Direct the requests from the API into an Amazon Simple Queue Service (Amazon SQS) queue
- H. Deploy the models as Amazon Elastic Container Service (Amazon ECS) services that read from the queue

I. Enable AWS Auto Scaling on Amazon ECS for both the cluster and copies of the service based on the queue size.

Answer: D

Explanation:

This answer is correct because it meets the requirements of running the ML models as independent microservices that can handle irregular and unpredictable usage patterns. By directing the requests from the API into an Amazon SQS queue, the company can decouple the request processing from the model execution, and ensure that no requests are lost due to spikes in demand. By deploying the models as Amazon ECS services that read from the queue, the company can leverage containers to isolate and package each model as a microservice, and fetch the model data from S3 at startup. By enabling AWS Auto Scaling on Amazon ECS for both the cluster and copies of the service based on the queue size, the company can automatically scale up or down the number of EC2 instances in the cluster and the number of tasks in each service to match the demand and optimize performance.

References:

? <https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/welcome.html>

? <https://docs.aws.amazon.com/AmazonECS/latest/developerguide/Welcome.html>

? <https://docs.aws.amazon.com/autoscaling/ec2/userguide/autoscaling-ecs.html>

NEW QUESTION 65

- (Topic 4)

A company runs a web application that is deployed on Amazon EC2 instances in the private subnet of a VPC. An Application Load Balancer (ALB) that extends across the public subnets directs web traffic to the EC2 instances. The company wants to implement new security measures to restrict inbound traffic from the ALB to the EC2 instances while preventing access from any other source inside or outside the private subnet of the EC2 instances.

Which solution will meet these requirements?

- A. Configure a route in a route table to direct traffic from the internet to the private IP addresses of the EC2 instances.
- B. Configure the security group for the EC2 instances to only allow traffic that comes from the security group for the ALB.
- C. Move the EC2 instances into the public subnet
- D. Give the EC2 instances a set of Elastic IP addresses.
- E. Configure the security group for the ALB to allow any TCP traffic on any port.

Answer: B

Explanation:

To restrict inbound traffic from the ALB to the EC2 instances, the security group for the EC2 instances should only allow traffic that comes from the security group for the ALB. This way, the EC2 instances can only receive requests from the ALB and not from any other source inside or outside the private subnet.

References:

? [Security Groups for Your Application Load Balancers](#)

? [Security Groups for Your VPC](#)

NEW QUESTION 66

- (Topic 4)

A company runs an infrastructure monitoring service. The company is building a new feature that will enable the service to monitor data in customer AWS accounts. The new feature will call AWS APIs in customer accounts to describe Amazon EC2 instances and read Amazon CloudWatch metrics.

What should the company do to obtain access to customer accounts in the MOST secure way?

- A. Ensure that the customers create an IAM role in their account with read-only EC2 and CloudWatch permissions and a trust policy to the company's account.
- B. Create a serverless API that implements a token vending machine to provide temporary AWS credentials for a role with read-only EC2 and CloudWatch permissions.
- C. Ensure that the customers create an IAM user in their account with read-only EC2 and CloudWatch permission
- D. Encrypt and store customer access and secret keys in a secrets management system.
- E. Ensure that the customers create an Amazon Cognito user in their account to use an IAM role with read-only EC2 and CloudWatch permission
- F. Encrypt and store the Amazon Cognito user and password in a secrets management system.

Answer: A

Explanation:

By having customers create an IAM role with the necessary permissions in their own accounts, the company can use AWS Identity and Access Management (IAM) to establish cross-account access. The trust policy allows the company's AWS account to assume the customer's IAM role temporarily, granting access to the specified resources (EC2 instances and CloudWatch metrics) within the customer's account. This approach follows the principle of least privilege, as the company only requests the necessary permissions and does not require long-term access keys or user credentials from the customers.

NEW QUESTION 70

- (Topic 4)

A company runs demonstration environments for its customers on Amazon EC2 instances. Each environment is isolated in its own VPC. The company's operations team needs to be notified when RDP or SSH access to an environment has been established.

- A. Configure Amazon CloudWatch Application Insights to create AWS Systems Manager OpsItems when RDP or SSH access is detected.
- B. Configure the EC2 instances with an IAM instance profile that has an IAM role with the AmazonSSMManagedInstanceCore policy attached.
- C. Publish VPC flow logs to Amazon CloudWatch Log
- D. Create required metric filter
- E. Create an Amazon CloudWatch metric alarm with a notification action for when the alarm is in the ALARM state.
- F. Configure an Amazon EventBridge rule to listen for events of type EC2 Instance State- change Notificatio
- G. Configure an Amazon Simple Notification Service (Amazon SNS) topic as a target
- H. Subscribe the operations team to the topic.

Answer: C

Explanation:

<https://aws.amazon.com/blogs/security/how-to-monitor-and-visualize-failed-ssh-access-attempts-to-amazon-ec2-linux-instances/>

NEW QUESTION 72

- (Topic 4)

A company is concerned that two NAT instances in use will no longer be able to support the traffic needed for the company's application. A solutions architect wants to implement a solution that is highly available, fault tolerant, and automatically scalable. What should the solutions architect recommend?

- A. Remove the two NAT instances and replace them with two NAT gateways in the same Availability Zone.
- B. Use Auto Scaling groups with Network Load Balancers for the NAT instances in different Availability Zones.
- C. Remove the two NAT instances and replace them with two NAT gateways in different Availability Zones.
- D. Replace the two NAT instances with Spot Instances in different Availability Zones and deploy a Network Load Balancer.

Answer: C

Explanation:

If you have resources in multiple Availability Zones and they share one NAT gateway, and if the NAT gateway's Availability Zone is down, resources in the other Availability Zones lose internet access. To create an Availability Zone-independent architecture, create a NAT gateway in each Availability Zone and configure your routing to ensure that resources use the NAT gateway in the same Availability Zone. <https://docs.aws.amazon.com/vpc/latest/userguide/vpc-nat-gateway.html#nat-gateway-basics>

NEW QUESTION 77

- (Topic 4)

A retail company uses a regional Amazon API Gateway API for its public REST APIs. The API Gateway endpoint is a custom domain name that points to an Amazon Route 53 alias record. A solutions architect needs to create a solution that has minimal effects on customers and minimal data loss to release the new version of APIs.

Which solution will meet these requirements?

- A. Create a canary release deployment stage for API Gateway
- B. Deploy the latest API version
- C. Point an appropriate percentage of traffic to the canary stage
- D. After API verification, promote the canary stage to the production stage.
- E. Create a new API Gateway endpoint with a new version of the API in OpenAPI YAML file format
- F. Use the import-to-update operation in merge mode into the API in API Gateway
- G. Deploy the new version of the API to the production stage.
- H. Create a new API Gateway endpoint with a new version of the API in OpenAPI JSON file format
- I. Use the import-to-update operation in overwrite mode into the API in API Gateway
- J. Deploy the new version of the API to the production stage.
- K. Create a new API Gateway endpoint with new versions of the API definition
- L. Create a custom domain name for the new API Gateway API
- M. Point the Route 53 alias record to the new API Gateway API custom domain name.

Answer: A

Explanation:

This answer is correct because it meets the requirements of releasing the new version of APIs with minimal effects on customers and minimal data loss. A canary release deployment is a software development strategy in which a new version of an API is deployed for testing purposes, and the base version remains deployed as a production release for normal operations on the same stage. In a canary release deployment, total API traffic is separated at random into a production release and a canary release with a pre-configured ratio. Typically, the canary release receives a small percentage of API traffic and the production release takes up the rest. The updated API features are only visible to API traffic through the canary. You can adjust the canary traffic percentage to optimize test coverage or performance. By keeping canary traffic small and the selection random, most users are not adversely affected at any time by potential bugs in the new version, and no single user is adversely affected all the time. After the test metrics pass your requirements, you can promote the canary release to the production release and disable the canary from the deployment. This makes the new features available in the production stage. References:
? <https://docs.aws.amazon.com/apigateway/latest/developerguide/canary-release.html>

NEW QUESTION 82

- (Topic 4)

A solutions architect is designing a REST API in Amazon API Gateway for a cash payback service. The application requires 1 GB of memory and 2 GB of storage for its computation resources. The application will require that the data is in a relational format.

Which additional combination of AWS services will meet these requirements with the LEAST administrative effort? (Select TWO.)

- A. Amazon EC2
- B. AWS Lambda
- C. Amazon RDS
- D. Amazon DynamoDB
- E. Amazon Elastic Kubernetes Services (Amazon EKS)

Answer: BC

Explanation:

AWS Lambda is a service that lets users run code without provisioning or managing servers. It automatically scales and manages the underlying compute resources for the code. It supports multiple languages, such as Java, Python, Node.js, and Go. By using AWS Lambda for the REST API, the solution can meet the requirements of 1 GB of memory and minimal administrative effort.

Amazon RDS is a service that makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while automating time-consuming administration tasks such as hardware provisioning, database setup, patching and backups. It supports multiple database engines, such as MySQL, PostgreSQL, Oracle, and SQL Server. By using Amazon RDS for the data store, the solution can meet the requirements of 2 GB of storage and a relational format.

* A. Amazon EC2. This solution will not meet the requirement of minimal administrative effort, as Amazon EC2 is a service that provides virtual servers in the cloud that users have to configure and manage themselves. It requires users to choose an instance type, an operating system, a security group, and other options.

* D. Amazon DynamoDB. This solution will not meet the requirement of a relational format, as Amazon DynamoDB is a service that provides a key-value and document database that delivers single-digit millisecond performance at any scale. It is a non-relational or NoSQL database that does not support joins or transactions.

* E. Amazon Elastic Kubernetes Services (Amazon EKS). This solution will not meet the requirement of minimal administrative effort, as Amazon EKS is a service

that provides a fully managed Kubernetes service that users have to configure and manage themselves. It requires users to create clusters, nodes groups, pods, services, and other Kubernetes resources.

Reference URL: <https://aws.amazon.com/lambda/>

NEW QUESTION 84

- (Topic 4)

A company has a web application hosted over 10 Amazon EC2 instances with traffic directed by Amazon Route 53. The company occasionally experiences a timeout error when attempting to browse the application. The networking team finds that some DNS queries return IP addresses of unhealthy instances, resulting in the timeout error.

What should a solutions architect implement to overcome these timeout errors?

- A. Create a Route 53 simple routing policy record for each EC2 instance
- B. Associate a health check with each record.
- C. Create a Route 53 failover routing policy record for each EC2 instance
- D. Associate a health check with each record.
- E. Create an Amazon CloudFront distribution with EC2 instances as its origin
- F. Associate a health check with the EC2 instances.
- G. Create an Application Load Balancer (ALB) with a health check in front of the EC2 instance
- H. Route to the ALB from Route 53.

Answer: D

Explanation:

An Application Load Balancer (ALB) allows you to distribute incoming traffic across multiple backend instances, and can automatically route traffic to healthy instances while removing traffic from unhealthy instances. By using an ALB in front of the EC2 instances and routing traffic to it from Route 53, the load balancer can perform health checks on the instances and only route traffic to healthy instances, which should help to reduce or eliminate timeout errors caused by unhealthy instances.

NEW QUESTION 87

- (Topic 4)

A company wants to host a scalable web application on AWS. The application will be accessed by users from different geographic regions of the world. Application users will be able to download and upload unique data up to gigabytes in size. The development team wants a cost-effective solution to minimize upload and download latency and maximize performance.

What should a solutions architect do to accomplish this?

- A. Use Amazon S3 with Transfer Acceleration to host the application.
- B. Use Amazon S3 with CacheControl headers to host the application.
- C. Use Amazon EC2 with Auto Scaling and Amazon CloudFront to host the application.
- D. Use Amazon EC2 with Auto Scaling and Amazon ElastiCache to host the application.

Answer: C

Explanation:

This answer is correct because it meets the requirements of hosting a scalable web application that can handle large data transfers from different geographic regions. Amazon EC2 provides scalable compute capacity for hosting web applications. Auto Scaling can automatically adjust the number of EC2 instances based on the demand and traffic patterns. Amazon CloudFront is a content delivery network (CDN) that can cache static and dynamic content at edge locations closer to the users, reducing latency and improving performance. CloudFront can also use S3 Transfer Acceleration to speed up the transfers between S3 buckets and CloudFront edge locations.

References:

? <https://docs.aws.amazon.com/autoscaling/ec2/userguide/what-is-amazon-ec2-auto-scaling.html>

? <https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/Introduction.html>

? <https://aws.amazon.com/s3/transfer-acceleration/>

NEW QUESTION 91

- (Topic 4)

A solutions architect has created two IAM policies: Policy1 and Policy2. Both policies are attached to an IAM group.

Policy 1

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [
        "iam:Get*",
        "iam:List*",
        "kms:List*",
        "ec2:*",
        "ds:*",
        "logs:Get*",
        "logs:Describe*"
      ],
      "Resource": "*"
    }
  ]
}
```

Policy 2

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "ds:Delete*",
      "Resource": "*"
    }
  ]
}
```

A cloud engineer is added as an IAM user to the IAM group. Which action will the cloud engineer be able to perform?

- A. Deleting IAM users
- B. Deleting directories
- C. Deleting Amazon EC2 instances
- D. Deleting logs from Amazon CloudWatch Logs

Answer: C

Explanation:

<https://awscli.amazonaws.com/v2/documentation/api/latest/reference/ds/index.html>

NEW QUESTION 96

- (Topic 4)

A company built an application with Docker containers and needs to run the application in the AWS Cloud. The company wants to use a managed service to host the application.

The solution must scale in and out appropriately according to demand on the individual container services. The solution also must not result in additional operational overhead or infrastructure to manage.

Which solutions will meet these requirements? (Select TWO)

- A. Use Amazon Elastic Container Service (Amazon ECS) with AWS Fargate.
- B. Use Amazon Elastic Kubernetes Service (Amazon EKS) with AWS Fargate.
- C. Provision an Amazon API Gateway API. Connect the API to AWS Lambda to run the containers.
- D. Use Amazon Elastic Container Service (Amazon ECS) with Amazon EC2 worker nodes.
- E. Use Amazon Elastic Kubernetes Service (Amazon EKS) with Amazon EC2 worker nodes.

Answer: AB

Explanation:

These options are the best solutions because they allow the company to run the application with Docker containers in the AWS Cloud using a managed service that scales automatically and does not require any infrastructure to manage. By using AWS Fargate, the company can launch and run containers without having to provision, configure, or scale clusters of EC2 instances. Fargate allocates the right amount of compute resources for each container and scales them up or down as needed. By using Amazon ECS or Amazon EKS, the company can choose the container orchestration platform that suits its needs. Amazon ECS is a fully managed service that integrates with other AWS services and simplifies the deployment and management of containers. Amazon EKS is a managed service that runs Kubernetes on AWS and provides compatibility with existing Kubernetes tools and plugins.

* C. Provision an Amazon API Gateway API. Connect the API to AWS Lambda to run the containers. This option is not feasible because AWS Lambda does not support running Docker containers directly. Lambda functions are executed in a sandboxed environment that is isolated from other functions and resources. To run Docker containers on Lambda, the company would need to use a custom runtime or a wrapper library that emulates the Docker API, which can introduce additional complexity and overhead.

* D. Use Amazon Elastic Container Service (Amazon ECS) with Amazon EC2 worker nodes. This option is not optimal because it requires the company to manage

the EC2 instances that host the containers. The company would need to provision, configure, scale, patch, and monitor the EC2 instances, which can increase the operational overhead and infrastructure costs.

* E. Use Amazon Elastic Kubernetes Service (Amazon EKS) with Amazon EC2 worker nodes. This option is not ideal because it requires the company to manage the EC2 instances that host the containers. The company would need to provision, configure, scale, patch, and monitor the EC2 instances, which can increase the operational overhead and infrastructure costs.

References:

- ? 1 AWS Fargate - Amazon Web Services
- ? 2 Amazon Elastic Container Service - Amazon Web Services
- ? 3 Amazon Elastic Kubernetes Service - Amazon Web Services
- ? 4 AWS Lambda FAQs - Amazon Web Services

NEW QUESTION 99

- (Topic 4)

A company is making a prototype of the infrastructure for its new website by manually provisioning the necessary infrastructure. This infrastructure includes an Auto Scaling group, an Application Load Balancer, and an Amazon RDS database. After the configuration has been thoroughly validated, the company wants the capability to immediately deploy the infrastructure for development and production use in two Availability Zones in an automated fashion.

What should a solutions architect recommend to meet these requirements?

- A. Use AWS Systems Manager to replicate and provision the prototype infrastructure in two Availability Zones.
- B. Define the infrastructure as a template by using the prototype infrastructure as a guide
- C. Deploy the infrastructure with AWS CloudFormation
- D. Use AWS Config to record the inventory of resources that are used in the prototype infrastructure
- E. Use AWS Config to deploy the prototype infrastructure into two Availability Zones.
- F. Use AWS Elastic Beanstalk and configure it to use an automated reference to the prototype infrastructure to automatically deploy new environments in two Availability Zones

Answer: B

Explanation:

AWS CloudFormation is a service that helps you model and set up your AWS resources by using templates that describe all the resources that you want, such as Auto Scaling groups, load balancers, and databases. You can use AWS CloudFormation to deploy your infrastructure in an automated and consistent way across multiple environments and regions. You can also use AWS CloudFormation to update or delete your infrastructure as a single unit.

Reference URLs:

- 1 <https://aws.amazon.com/cloudformation/>
- 2 <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/Welcome.html>
- 3 <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/cfn-what-is-concepts.html>

NEW QUESTION 101

- (Topic 4)

A company runs a three-tier application in two AWS Regions. The web tier, the application tier, and the database tier run on Amazon EC2 instances. The company uses Amazon RDS for Microsoft SQL Server Enterprise for the database tier. The database tier is experiencing high load when weekly and monthly reports are run. The company wants to reduce the load on the database tier.

Which solution will meet these requirements with the LEAST administrative effort?

- A. Create read replica
- B. Configure the reports to use the new read replicas.
- C. Convert the RDS database to Amazon DynamoDB. Configure the reports to use DynamoDB
- D. Modify the existing RDS DB instances by selecting a larger instance size.
- E. Modify the existing RDS DB instances and put the instances into an Auto Scaling group.

Answer: A

Explanation:

it allows the company to create read replicas of its RDS database and reduce the load on the database tier. By creating read replicas, the company can offload read traffic from the primary database instance to one or more replicas. By configuring the reports to use the new read replicas, the company can improve performance and availability of its database tier. References:

- ? Working with Read Replicas
- ? Read Replicas for Amazon RDS for SQL Server

NEW QUESTION 102

- (Topic 4)

A company hosts a data lake on Amazon S3. The data lake ingests data in Apache Parquet format from various data sources. The company uses multiple transformation steps to prepare the ingested data. The steps include filtering of anomalies, normalizing of data to standard date and time values, and generation of aggregates for analyses.

The company must store the transformed data in S3 buckets that data analysts access. The company needs a prebuilt solution for data transformation that does not require code. The solution must provide data lineage and data profiling. The company needs to share the data transformation steps with employees throughout the company.

Which solution will meet these requirements?

- A. Configure an AWS Glue Studio visual canvas to transform the data
- B. Share the transformation steps with employees by using AWS Glue jobs.
- C. Configure Amazon EMR Serverless to transform the data
- D. Share the transformation steps with employees by using EMR Serverless jobs.
- E. Configure AWS Glue DataBrew to transform the data
- F. Share the transformation steps with employees by using DataBrew recipes.
- G. Create Amazon Athena tables for the data
- H. Write Athena SQL queries to transform the data
- I. Share the Athena SQL queries with employees.

Answer: C

Explanation:

The most suitable solution for the company's requirements is to configure AWS Glue DataBrew to transform the data and share the transformation steps with employees by using DataBrew recipes. This solution will provide a prebuilt solution for data transformation that does not require code, and will also provide data lineage and data profiling. The company can easily share the data transformation steps with employees throughout the company by using DataBrew recipes. AWS Glue DataBrew is a visual data preparation tool that makes it easy for data analysts and data scientists to clean and normalize data for analytics or machine learning by up to 80% faster. Users can upload their data from various sources, such as Amazon S3, Amazon RDS, Amazon Redshift, Amazon Aurora, or Glue Data Catalog, and use a point-and-click interface to apply over 250 built-in transformations. Users can also preview the results of each transformation step and see how it affects the quality and distribution of the data¹.

A DataBrew recipe is a reusable set of transformation steps that can be applied to one or more datasets. Users can create recipes from scratch or use existing ones from the DataBrew recipe library. Users can also export, import, or share recipes with other users or groups within their AWS account or organization². DataBrew also provides data lineage and data profiling features that help users understand and improve their data quality. Data lineage shows the source and destination of each dataset and how it is transformed by each recipe step. Data profiling shows various statistics and metrics about each dataset, such as column

NEW QUESTION 106

- (Topic 4)

A company wants to use high-performance computing and artificial intelligence to improve its fraud prevention and detection technology. The company requires distributed processing to complete a single workload as quickly as possible.

Which solution will meet these requirements?

- A. Use Amazon Elastic Kubernetes Service (Amazon EKS) and multiple containers.
- B. Use AWS ParallelCluster and the Message Passing Interface (MPI) libraries.
- C. Use an Application Load Balancer and Amazon EC2 instances.
- D. Use AWS Lambda functions.

Answer: B

Explanation:

AWS ParallelCluster is a service that allows you to create and manage high-performance computing (HPC) clusters on AWS. It supports multiple schedulers, including AWS Batch, which can run distributed workloads across multiple EC2 instances¹.

MPI is a standard for message passing between processes in parallel computing. It provides functions for sending and receiving data, synchronizing processes, and managing communication groups².

By using AWS ParallelCluster and MPI libraries, you can take advantage of the following benefits:

? You can easily create and configure HPC clusters that meet your specific requirements, such as instance type, number of nodes, network configuration, and storage options¹.

? You can leverage the scalability and elasticity of AWS to run large-scale parallel workloads without worrying about provisioning or managing servers¹.

? You can use MPI libraries to optimize the performance and efficiency of your parallel applications by enabling inter-process communication and data exchange².

? You can choose from a variety of MPI implementations that are compatible with AWS ParallelCluster, such as Open MPI, Intel MPI, and MPICH³.

NEW QUESTION 108

- (Topic 4)

A company operates an ecommerce website on Amazon EC2 instances behind an Application Load Balancer (ALB) in an Auto Scaling group. The site is experiencing performance issues related to a high request rate from illegitimate external systems with changing IP addresses. The security team is worried about potential DDoS attacks against the website. The company must block the illegitimate incoming requests in a way that has a minimal impact on legitimate users. What should a solutions architect recommend?

- A. Deploy Amazon Inspector and associate it with the ALB.
- B. Deploy AWS WAF, associate it with the ALB, and configure a rate-limiting rule.
- C. Deploy rules to the network ACLs associated with the ALB to block the incoming traffic.
- D. Deploy Amazon GuardDuty and enable rate-limiting protection when configuring GuardDuty.

Answer: B

Explanation:

This answer is correct because it meets the requirements of blocking the illegitimate incoming requests in a way that has a minimal impact on legitimate users. AWS WAF is a web application firewall that helps protect your web applications or APIs against common web exploits that may affect availability, compromise security, or consume excessive resources. AWS WAF gives you control over how traffic reaches your applications by enabling you to create security rules that block common attack patterns, such as SQL injection or cross-site scripting, and rules that filter out specific traffic patterns you define. You can associate AWS WAF with an ALB to protect the web application from malicious requests. You can configure a rate-limiting rule in AWS WAF to track the rate of requests for each originating IP address and block requests from an IP address that exceeds a certain limit within a five-minute period. This way, you can mitigate potential DDoS attacks and improve the performance of your website.

References:

? <https://docs.aws.amazon.com/waf/latest/developerguide/what-is-aws-waf.html>

? <https://docs.aws.amazon.com/waf/latest/developerguide/waf-rule-statement-type-rate-based.html>

NEW QUESTION 111

- (Topic 4)

A company runs its applications on Amazon EC2 instances. The company performs periodic financial assessments of its AWS costs. The company recently identified unusual spending.

The company needs a solution to prevent unusual spending. The solution must monitor costs and notify responsible stakeholders in the event of unusual spending. Which solution will meet these requirements?

- A. Use an AWS Budgets template to create a zero spend budget
- B. Create an AWS Cost Anomaly Detection monitor in the AWS Billing and Cost Management console.
- C. Create AWS Pricing Calculator estimates for the current running workload pricing details_
- D. Use Amazon CloudWatch to monitor costs and to identify unusual spending

Answer: B

Explanation:

it allows the company to monitor costs and notify responsible stakeholders in the event of unusual spending. By creating an AWS Cost Anomaly Detection monitor in the AWS Billing and Cost Management console, the company can use a machine learning service that automatically detects and alerts on anomalous spend. By configuring alert thresholds, notification preferences, and root cause analysis, the company can prevent unusual spending and identify its source. References:
? AWS Cost Anomaly Detection
? Creating a Cost Anomaly Monitor

NEW QUESTION 114

- (Topic 4)

A company needs to minimize the cost of its 1 Gbps AWS Direct Connect connection. The company's average connection utilization is less than 10%. A solutions architect must recommend a solution that will reduce the cost without compromising security. Which solution will meet these requirements?

- A. Set up a new 1 Gbps Direct Connect connectio
- B. Share the connection with another AWS account.
- C. Set up a new 200 Mbps Direct Connect connection in the AWS Management Console.
- D. Contact an AWS Direct Connect Partner to order a 1 Gbps connectio
- E. Share the connection with another AWS account.
- F. Contact an AWS Direct Connect Partner to order a 200 Mbps hosted connection for an existing AWS account.

Answer: D

Explanation:

company need to setup a cheaper connection (200 M) but B is incorrect because you can only order port speeds of 1, 10, or 100 Gbps for more flexibility you can go with hosted connection, You can order port speeds between 50 Mbps and 10 Gbps. <https://docs.aws.amazon.com/whitepapers/latest/aws-vpc-connectivity-options/aws-direct-connect.html>

NEW QUESTION 115

- (Topic 4)

A company designed a stateless two-tier application that uses Amazon EC2 in a single Availability Zone and an Amazon RDS Multi-AZ DB instance New company management wants to ensure the application is highly available. What should a solutions architect do to meet this requirement?

- A. Configure the application to use Multi-AZ EC2 Auto Scaling and create an Application Load Balancer
- B. Configure the application to take snapshots of the EC2 instances and send them to a different AWS Region.
- C. Configure the application to use Amazon Route 53 latency-based routing to feed requests to the application.
- D. Configure Amazon Route 53 rules to handle incoming requests and create a Multi-AZ Application Load Balancer

Answer: A

Explanation:

<https://docs.aws.amazon.com/autoscaling/ec2/userguide/as-add-availability-zone.html>

NEW QUESTION 120

- (Topic 4)

A company has a three-tier application for image sharing. The application uses an Amazon EC2 instance for the front-end layer, another EC2 instance for the application layer, and a third EC2 instance for a MySQL database. A solutions architect must design a scalable and highly available solution that requires the least amount of change to the application. Which solution meets these requirements?

- A. Use Amazon S3 to host the front-end laye
- B. Use AWS Lambda functions for the application laye
- C. Move the database to an Amazon DynamoDB tabl
- D. Use Amazon S3 to store and serve users' images.
- E. Use load-balanced Multi-AZ AWS Elastic Beanstalk environments for the front-end layer and the application laye
- F. Move the database to an Amazon RDS DB instance with multiple read replicas to serve users' images.
- G. Use Amazon S3 to host the front-end laye
- H. Use a fleet of EC2 instances in an Auto Scaling group for the application laye
- I. Move the database to a memory optimized instance type to store and serve users' images.
- J. Use load-balanced Multi-AZ AWS Elastic Beanstalk environments for the front-end layer and the application laye
- K. Move the database to an Amazon RDS Multi-AZ DB instanc
- L. Use Amazon S3 to store and serve users' images.

Answer: D

Explanation:

for "Highly available": Multi-AZ & for "least amount of changes to the application": Elastic Beanstalk automatically handles the deployment, from capacity provisioning, load balancing, auto-scaling to application health monitoring

NEW QUESTION 122

- (Topic 4)

A company runs multiple workloads in its on-premises data center. The company's data center cannot scale fast enough to meet the company's expanding business needs. The company wants to collect usage and configuration data about the on-premises servers and workloads to plan a migration to AWS. Which solution will meet these requirements?

- A. Set the home AWS Region in AWS Migration Hu
- B. Use AWS Systems Manager to collect data about the on-premises servers.
- C. Set the home AWS Region in AWS Migration Hu
- D. Use AWS Application Discovery Service to collect data about the on-premises servers.

- E. Use the AWS Schema Conversion Tool (AWS SCT) to create the relevant template
- F. Use AWS Trusted Advisor to collect data about the on-premises servers.
- G. Use the AWS Schema Conversion Tool (AWS SCT) to create the relevant templates. Use AWS Database Migration Service (AWS DMS) to collect data about the on-premises servers.

Answer: B

Explanation:

The most suitable solution for the company's requirements is to set the home AWS Region in AWS Migration Hub and use AWS Application Discovery Service to collect data about the on-premises servers. This solution will enable the company to gather usage and configuration data of its on-premises servers and workloads, and plan a migration to AWS.

AWS Migration Hub is a service that simplifies and accelerates migration tracking by aggregating migration status information into a single console. Users can view the discovered servers, group them into applications, and track the migration status of each application from the Migration Hub console in their home Region. The home Region is the AWS Region where users store their migration data, regardless of which Regions they migrate into¹.

AWS Application Discovery Service is a service that helps users plan their migration to AWS by collecting usage and configuration data about their on-premises servers and databases. Application Discovery Service is integrated with AWS Migration Hub and supports two methods of performing discovery: agentless discovery and agent-based discovery. Agentless discovery can be performed by deploying the Application Discovery Service Agentless Collector through VMware vCenter, which collects static configuration data and utilization data for virtual machines (VMs) and databases. Agent-based discovery can be performed by deploying the AWS Application Discovery Agent on each of the VMs and physical servers, which collects static configuration data, detailed time-series system-performance information, inbound and outbound network connections, and processes that are running².

The other options are not correct because they do not meet the requirements or are not relevant for the use case. Using the AWS Schema Conversion Tool (AWS SCT) to create the relevant templates and using AWS Trusted Advisor to collect data about the on-premises servers is not correct because this solution is not suitable for collecting usage and configuration data of on-premises servers and workloads. AWS SCT is a tool that helps users convert database schemas and code objects from one database engine to another, such as from Oracle to PostgreSQL³. AWS Trusted Advisor is a service that provides best practice recommendations for cost optimization, performance, security, fault tolerance, and service limits⁴. Using the AWS Schema Conversion Tool (AWS SCT) to create the relevant templates and using AWS Database Migration Service (AWS DMS) to collect data about the on-premises servers is not correct because this solution is not suitable for collecting usage and configuration data of on-premises servers and workloads. As mentioned above, AWS SCT is a tool that helps users convert database schemas and code objects from one database engine to another. AWS DMS is a service that helps users migrate relational databases, non-relational databases, and other types of data stores to

AWS with minimal downtime⁵. References:

- ? Home Region - AWS Migration Hub
- ? What is AWS Application Discovery Service? - AWS Application Discovery Service
- ? AWS Schema Conversion Tool - Amazon Web Services
- ? What Is Trusted Advisor? - Trusted Advisor
- ? What Is AWS Database Migration Service? - AWS Database Migration Service

NEW QUESTION 125

- (Topic 4)

A media company collects and analyzes user activity data on premises. The company wants to migrate this capability to AWS. The user activity data store will continue to grow and will be petabytes in size. The company needs to build a highly available data ingestion solution that facilitates on-demand analytics of existing data and new data with SQL.

Which solution will meet these requirements with the LEAST operational overhead?

- A. Send activity data to an Amazon Kinesis data stream
- B. Configure the stream to deliver the data to an Amazon S3 bucket.
- C. Send activity data to an Amazon Kinesis Data Firehose delivery stream
- D. Configure the stream to deliver the data to an Amazon Redshift cluster.
- E. Place activity data in an Amazon S3 bucket
- F. Configure Amazon S3 to run an AWS Lambda function on the data as the data arrives in the S3 bucket.
- G. Create an ingestion service on Amazon EC2 instances that are spread across multiple Availability Zones
- H. Configure the service to forward data to an Amazon RDS Multi-AZ database.

Answer: B

Explanation:

Amazon Redshift is a fully managed, petabyte-scale data warehouse service in the cloud. You can start with just a few hundred gigabytes of data and scale to a petabyte or more. This allows you to use your data to gain new insights for your business and customers. The first step to create a data warehouse is to launch a set of nodes, called an Amazon Redshift cluster. After you provision your cluster, you can upload your data set and then perform data analysis queries. Regardless of the size of the data set, Amazon Redshift offers fast query performance using the same SQL-based tools and business intelligence applications that you use today.

NEW QUESTION 129

- (Topic 4)

A company uses Amazon S3 as its data lake. The company has a new partner that must use SFTP to upload data files. A solutions architect needs to implement a highly available SFTP solution that minimizes operational overhead.

Which solution will meet these requirements?

- A. Use AWS Transfer Family to configure an SFTP-enabled server with a publicly accessible endpoint. Choose the S3 data lake as the destination.
- B. Use Amazon S3 File Gateway as an SFTP server. Expose the S3 File Gateway endpoint URL to the new partner. Share the S3 File Gateway endpoint with the new partner.
- C. Launch an Amazon EC2 instance in a private subnet in a VPC.
- D. Instruct the new partner to upload files to the EC2 instance by using a VPC.
- E. Run a cron job script on the EC2 instance to upload files to the S3 data lake.
- F. Launch Amazon EC2 instances in a private subnet in a VPC.
- G. Place a Network Load Balancer (NLB) in front of the EC2 instance.
- H. Create an SFTP listener port for the NLB. Share the NLB hostname with the new partner. Run a cron job script on the EC2 instances to upload files to the S3 data lake.

Answer: A

Explanation:

This option is the most cost-effective and simple way to enable SFTP access to the S3 data lake. AWS Transfer Family is a fully managed service that supports secure file transfers over SFTP, FTPS, and FTP protocols. You can create an SFTP-enabled server with a public endpoint and associate it with your S3 bucket. You can also use AWS Identity and Access Management (IAM) roles and policies to control access to your S3 data lake. The service scales automatically to handle any volume of file transfers and provides high availability and durability. You do not need to provision, manage, or patch any servers or load balancers. Option B is not correct because Amazon S3 File Gateway is not an SFTP server. It is a hybrid cloud storage service that provides a local file system interface to S3. You can use it to store and retrieve files as objects in S3 using standard file protocols such as NFS and SMB. However, it does not support SFTP protocol, and it requires deploying a file gateway appliance on-premises or on EC2.

Option C is not cost-effective or scalable because it requires launching and managing an EC2 instance in a private subnet and setting up a VPN connection for the new partner. This would incur additional costs for the EC2 instance, the VPN connection, and the data transfer. It would also introduce complexity and security risks to the solution. Moreover, it would require running a cron job script on the EC2 instance to upload files to the S3 data lake, which is not efficient or reliable.

Option D is not cost-effective or scalable because it requires launching and managing multiple EC2 instances in a private subnet and placing a NLB in front of them. This would incur additional costs for the EC2 instances, the NLB, and the data transfer. It would also introduce complexity and security risks to the solution. Moreover, it would require running a cron job script on the EC2 instances to upload files to the S3 data lake, which is not efficient or reliable. References:

- ? What Is AWS Transfer Family?
- ? What Is Amazon S3 File Gateway?
- ? What Is Amazon EC2?
- ? [What Is Amazon Virtual Private Cloud?]
- ? [What Is a Network Load Balancer?]

NEW QUESTION 134

- (Topic 4)

A company hosts an application used to upload files to an Amazon S3 bucket. Once uploaded, the files are processed to extract metadata which takes less than 5 seconds. The volume and frequency of the uploads varies from a few files each hour to hundreds of concurrent uploads. The company has asked a solutions architect to design a cost-effective architecture that will meet these requirements.

What should the solutions architect recommend?

- A. Configure AWS CloudTrail trails to log S3 API calls. Use AWS AppSync to process the files.
- B. Configure an object-created event notification within the S3 bucket to invoke an AWS Lambda function to process the files.
- C. Configure Amazon Kinesis Data Streams to process and send data to Amazon S3. Invoke an AWS Lambda function to process the files.
- D. Configure an Amazon Simple Notification Service (Amazon SNS) topic to process the files uploaded to Amazon S3. Invoke an AWS Lambda function to process the files.

Answer: B

Explanation:

This option is the most cost-effective and scalable way to process the files uploaded to S3. AWS CloudTrail is used to log API calls, not to trigger actions based on them. AWS AppSync is a service for building GraphQL APIs, not for processing files. Amazon Kinesis Data Streams is used to ingest and process streaming data, not to send data to S3. Amazon SNS is a pub/sub service that can be used to notify subscribers of events, not to process files. References:

- ? Using AWS Lambda with Amazon S3
- ? AWS CloudTrail FAQs
- ? What Is AWS AppSync?
- ? [What Is Amazon Kinesis Data Streams?]
- ? [What Is Amazon Simple Notification Service?]

NEW QUESTION 137

- (Topic 4)

A company has resources across multiple AWS Regions and accounts. A newly hired solutions architect discovers a previous employee did not provide details about the resources inventory. The solutions architect needs to build and map the relationship details of the various workloads across all accounts.

Which solution will meet these requirements in the MOST operationally efficient way?

- A. Use AWS Systems Manager Inventory to generate a map view from the detailed view report.
- B. Use AWS Step Functions to collect workload details. Build architecture diagrams of the workloads manually.
- C. Use Workload Discovery on AWS to generate architecture diagrams of the workloads.
- D. Use AWS X-Ray to view the workload details. Build architecture diagrams with relationships.

Answer: C

Explanation:

Workload Discovery on AWS (formerly called AWS Perspective) is a tool that visualizes AWS Cloud workloads. It maintains an inventory of the AWS resources across your accounts and Regions, mapping relationships between them, and displaying them in a web UI. It also allows you to query AWS Cost and Usage Reports, search for resources, save and export architecture diagrams, and more¹. By using Workload Discovery on AWS, the solution can build and map the relationship details of the various workloads across all accounts with the least operational effort.

* A. Use AWS Systems Manager Inventory to generate a map view from the detailed view report. This solution will not meet the requirement of building and mapping the relationship details of the various workloads across all accounts, as AWS Systems Manager Inventory is a feature that collects metadata from your managed instances and stores it in a central Amazon S3 bucket. It does not provide a map view or architecture diagrams of the workloads².

* B. Use AWS Step Functions to collect workload details. Build architecture diagrams of the workloads manually. This solution will not meet the requirement of the least operational effort, as it involves creating and managing state machines to orchestrate the workload details collection, and building architecture diagrams manually.

* D. Use AWS X-Ray to view the workload details. Build architecture diagrams with relationships. This solution will not meet the requirement of the least operational effort, as it involves instrumenting your applications with X-Ray SDKs to collect workload details, and building architecture diagrams manually.

Reference URL: <https://aws.amazon.com/solutions/implementations/workload-discovery-on-aws/>

NEW QUESTION 138

- (Topic 4)

A company is deploying an application that processes streaming data in near-real time. The company plans to use Amazon EC2 instances for the workload. The network architecture must be configurable to provide the lowest possible latency between nodes.

Which combination of network solutions will meet these requirements? (Select TWO)

- A. Enable and configure enhanced networking on each EC2 instance

- B. Group the EC2 instances in separate accounts
- C. Run the EC2 instances in a cluster placement group
- D. Attach multiple elastic network interfaces to each EC2 instance
- E. Use Amazon Elastic Block Store (Amazon EBS) optimized instance types.

Answer: AC

Explanation:

These options are the most suitable ways to configure the network architecture to provide the lowest possible latency between nodes. Option A enables and configures enhanced networking on each EC2 instance, which is a feature that improves the network performance of the instance by providing higher bandwidth, lower latency, and lower jitter. Enhanced networking uses single root I/O virtualization (SR-IOV) or Elastic Fabric Adapter (EFA) to provide direct access to the network hardware. You can enable and configure enhanced networking by choosing a supported instance type and a compatible operating system, and installing the required drivers. Option C runs the EC2 instances in a cluster placement group, which is a logical grouping of instances within a single Availability Zone that are placed close together on the same underlying hardware. Cluster placement groups provide the lowest network latency and the highest network throughput among the placement group options. You can run the EC2 instances in a cluster placement group by creating a placement group and launching the instances into it. Option B is not suitable because grouping the EC2 instances in separate accounts does not provide the lowest possible latency between nodes. Separate accounts are used to isolate and organize resources for different purposes, such as security, billing, or compliance. However, they do not affect the network performance or proximity of the instances. Moreover, grouping the EC2 instances in separate accounts would incur additional costs and complexity, and it would require setting up cross-account networking and permissions.

Option D is not suitable because attaching multiple elastic network interfaces to each EC2 instance does not provide the lowest possible latency between nodes. Elastic network interfaces are virtual network interfaces that can be attached to EC2 instances to provide additional network capabilities, such as multiple IP addresses, multiple subnets, or enhanced security. However, they do not affect the network performance or proximity of the instances. Moreover, attaching multiple elastic network interfaces to each EC2 instance would consume additional resources and limit the instance type choices.

Option E is not suitable because using Amazon EBS optimized instance types does not provide the lowest possible latency between nodes. Amazon EBS optimized instance types are instances that provide dedicated bandwidth for Amazon EBS volumes, which are block storage volumes that can be attached to EC2 instances. EBS optimized instance types improve the performance and consistency of the EBS volumes, but they do not affect the network performance or proximity of the instances. Moreover, using EBS optimized instance types would incur additional costs and may not be necessary for the streaming data workload.

References:

- ? Enhanced networking on Linux
- ? Placement groups
- ? Elastic network interfaces
- ? Amazon EBS-optimized instances

NEW QUESTION 143

- (Topic 4)

A company's reporting system delivers hundreds of .csv files to an Amazon S3 bucket each day. The company must convert these files to Apache Parquet format and must store the files in a transformed data bucket.

Which solution will meet these requirements with the LEAST development effort?

- A. Create an Amazon EMR cluster with Apache Spark installed
- B. Write a Spark application to transform the data
- C. Use EMR File System (EMRFS) to write files to the transformed data bucket.
- D. Create an AWS Glue crawler to discover the data
- E. Create an AWS Glue extract, transform, and load (ETL) job to transform the data
- F. Specify the transformed data bucket in the output step.
- G. Use AWS Batch to create a job definition with Bash syntax to transform the data and output the data to the transformed data bucket
- H. Use the job definition to submit a job
- I. Specify an array job as the job type.
- J. Create an AWS Lambda function to transform the data and output the data to the transformed data bucket
- K. Configure an event notification for the S3 bucket
- L. Specify the Lambda function as the destination for the event notification.

Answer: B

Explanation:

<https://docs.aws.amazon.com/prescriptive-guidance/latest/patterns/three-aws-glue-etl-job-types-for-converting-data-to-apache-parquet.html>

NEW QUESTION 147

- (Topic 4)

A company has a production workload that is spread across different AWS accounts in various AWS Regions. The company uses AWS Cost Explorer to continuously monitor costs and usage. The company wants to receive notifications when the cost and usage spending of the workload is unusual.

Which combination of steps will meet these requirements? (Select TWO.)

- A. In the AWS accounts where the production workload is running, create a linked account budget by using Cost Explorer in the AWS Cost Management console
- B. In the AWS accounts where the production workload is running, create a linked account monitor by using AWS Cost Anomaly Detection in the AWS Cost Management console
- C. In the AWS accounts where the production workload is running, create a Cost and Usage Report by using Cost Anomaly Detection in the AWS Cost Management console.
- D. Create a report and send email messages to notify the company on a weekly basis.
- E. Create a subscription with the required threshold and notify the company by using weekly summaries.

Answer: BE

Explanation:

AWS Cost Anomaly Detection allows you to create monitors that track the cost and usage of your AWS resources and alert you when there is an unusual spending pattern. You can create monitors based on different dimensions, such as AWS services, accounts, tags, or cost categories. You can also create alert subscriptions that notify you by email or Amazon SNS when an anomaly is detected. You can specify the threshold and frequency of the alerts, and choose to receive weekly summaries of your anomalies. Reference URLs:

- 1 <https://aws.amazon.com/aws-cost-management/aws-cost-anomaly-detection/>
- 2 <https://docs.aws.amazon.com/cost-management/latest/userguide/getting-started-ad.html>
- 3 <https://docs.aws.amazon.com/cost-management/latest/userguide/manage-ad.html>

NEW QUESTION 150

- (Topic 4)

A company wants to create an application to store employee data in a hierarchical structured relationship. The company needs a minimum-latency response to high-traffic queries for the employee data and must protect any sensitive data. The company also needs to receive monthly email messages if any financial information is present in the employee data.

Which combination of steps should a solutions architect take to meet these requirements? (Select TWO.)

- A. Use Amazon Redshift to store the employee data in hierarchie
- B. Unload the data to Amazon S3 every month.
- C. Use Amazon DynamoDB to store the employee data in hierarchie
- D. Export the data to Amazon S3 every month.
- E. Configure Amazon fvlacie for the AWS accoun
- F. Integrate Macie with Amazon EventBridge to send monthly events to AWS Lambda.
- G. Use Amazon Athena to analyze the employee data in Amazon S3. Integrate Athena with Amazon QuickSight to publish analysis dashboards and share the dashboards with users.
- H. Configure Amazon Macie for the AWS account Integrate Macie with Amazon EventBridge to send monthly notifications through an Amazon Simple Notification Service (Amazon SNS) subscription.

Answer: BE

Explanation:

Generally, for building a hierarchical relationship model, a graph database such as Amazon Neptune is a better choice. In some cases, however, DynamoDB is a better choice for hierarchical data modeling because of its flexibility, security, performance, and scale. <https://docs.aws.amazon.com/prescriptive-guidance/latest/dynamodb-hierarchical-data-model/introduction.html>

NEW QUESTION 154

- (Topic 4)

A company runs a web application on Amazon EC2 instances in an Auto Scaling group that has a target group. The company desgned the application to work with session affinity (sticky sessions) for a better user experience.

The application must be available publicly over the internet as an endpoint_ A WAF must be applied to the endpoint for additional security. Session affinity (sticky sessions) must be configured on the endpoint

Which combination of steps will meet these requirements? (Select TWO)

- A. Create a public Network Load Balancer Specify the application target group.
- B. Create a Gateway Load Balancer Specify the application target group.
- C. Create a public Application Load Balancer Specify the application target group.
- D. Create a second target grou
- E. Add Elastic IP addresses to the EC2 instances
- F. Create a web ACL in AWS WAF Associate the web ACL with the endpoint

Answer: CE

Explanation:

C and E are the correct answers because they allow the company to create a public endpoint for its web application that supports session affinity (sticky sessions) and has a WAF applied for additional security. By creating a public Application Load Balancer, the company can distribute incoming traffic across multiple EC2 instances in an Auto Scaling group and specify the application target group. By creating a web ACL in AWS WAF and associating it with the Application Load Balancer, the company can protect its web application from common web exploits. By enabling session stickiness on the Application Load Balancer, the company can ensure that subsequent requests from a user during a session are routed to the same target. References:

? Application Load Balancers

? AWS WAF

? Target Groups for Your Application Load Balancers

? How Application Load Balancer Works with Sticky Sessions

NEW QUESTION 159

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