

Amazon-Web-Services

Exam Questions SAA-C03

AWS Certified Solutions Architect - Associate (SAA-C03)



NEW QUESTION 1

- (Topic 1)

A company hosts a containerized web application on a fleet of on-premises servers that process incoming requests. The number of requests is growing quickly. The on-premises servers cannot handle the increased number of requests. The company wants to move the application to AWS with minimum code changes and minimum development effort.

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

- A. Use AWS Fargate on Amazon Elastic Container Service (Amazon ECS) to run the containerized web application with Service Auto Scaling
- B. Use an Application Load Balancer to distribute the incoming requests.
- C. Use two Amazon EC2 instances to host the containerized web application
- D. Use an Application Load Balancer to distribute the incoming requests
- E. Use AWS Lambda with a new code that uses one of the supported languages
- F. Create multiple Lambda functions to support the load
- G. Use Amazon API Gateway as an entry point to the Lambda functions.
- H. Use a high performance computing (HPC) solution such as AWS ParallelCluster to establish an HPC cluster that can process the incoming requests at the appropriate scale.

Answer: A

Explanation:

AWS Fargate is a serverless compute engine that lets users run containers without having to manage servers or clusters of Amazon EC2 instances¹. Users can use AWS Fargate on Amazon Elastic Container Service (Amazon ECS) to run the containerized web application with Service Auto Scaling. Amazon ECS is a fully managed container orchestration service that supports both Docker and Kubernetes². Service Auto Scaling is a feature that allows users to adjust the desired number of tasks in an ECS service based on CloudWatch metrics, such as CPU utilization or request count³. Users can use AWS Fargate on Amazon ECS to migrate the application to AWS with minimum code changes and minimum development effort, as they only need to package their application in containers and specify the CPU and memory requirements.

Users can also use an Application Load Balancer to distribute the incoming requests. An Application Load Balancer is a load balancer that operates at the application layer and routes traffic to targets based on the content of the request. Users can register their ECS tasks as targets for an Application Load Balancer and configure listener rules to route requests to different target groups based on path or host headers. Users can use an Application Load Balancer to improve the availability and performance of their web application.

NEW QUESTION 2

- (Topic 1)

A company performs monthly maintenance on its AWS infrastructure. During these maintenance activities, the company needs to rotate the credentials for its Amazon RDS for MySQL databases across multiple AWS Regions

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

- A. Store the credentials as secrets in AWS Secrets Manager
- B. Use multi-Region secret replication for the required Regions Configure Secrets Manager to rotate the secrets on a schedule
- C. Store the credentials as secrets in AWS Systems Manager by creating a secure string parameter Use multi-Region secret replication for the required Regions Configure Systems Manager to rotate the secrets on a schedule
- D. Store the credentials in an Amazon S3 bucket that has server-side encryption (SSE) enabled Use Amazon EventBridge (Amazon CloudWatch Events) to invoke an AWS Lambda function to rotate the credentials
- E. Encrypt the credentials as secrets by using AWS Key Management Service (AWS KMS) multi-Region customer managed keys Store the secrets in an Amazon DynamoDB global table Use an AWS Lambda function to retrieve the secrets from DynamoDB Use the RDS API to rotate the secrets.

Answer: A

Explanation:

<https://aws.amazon.com/blogs/security/how-to-replicate-secrets-aws-secrets-manager-multiple-regions/>

NEW QUESTION 3

- (Topic 1)

A company is running a popular social media website. The website gives users the ability to upload images to share with other users. The company wants to make sure that the images do not contain inappropriate content. The company needs a solution that minimizes development effort.

What should a solutions architect do to meet these requirements?

- A. Use Amazon Comprehend to detect inappropriate content
- B. Use human review for low-confidence predictions.
- C. Use Amazon Rekognition to detect inappropriate content
- D. Use human review for low-confidence predictions.
- E. Use Amazon SageMaker to detect inappropriate content
- F. Use ground truth to label low-confidence predictions.
- G. Use AWS Fargate to deploy a custom machine learning model to detect inappropriate content
- H. Use ground truth to label low-confidence predictions.

Answer: B

Explanation:

<https://docs.aws.amazon.com/rekognition/latest/dg/moderation.html?pg=ln&sec=ft> <https://docs.aws.amazon.com/rekognition/latest/dg/a2i-rekognition.html>

NEW QUESTION 4

- (Topic 1)

A company's application integrates with multiple software-as-a-service (SaaS) sources for data collection. The company runs Amazon EC2 instances to receive the data and to upload the data to an Amazon S3 bucket for analysis. The same EC2 instance that receives and uploads the data also sends a notification to the user when an upload is complete. The company has noticed slow application performance and wants to improve the performance as much as possible.

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

- A. Create an Auto Scaling group so that EC2 instances can scale out
- B. Configure an S3 event notification to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.
- C. Create an Amazon AppFlow flow to transfer data between each SaaS source and the S3 bucket
- D. Configure an S3 event notification to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.
- E. Create an Amazon EventBridge (Amazon CloudWatch Events) rule for each SaaS source to send output data
- F. Configure the S3 bucket as the rule's target
- G. Create a second EventBridge (CloudWatch Events) rule to send events when the upload to the S3 bucket is complete
- H. Configure an Amazon Simple Notification Service (Amazon SNS) topic as the second rule's target.
- I. Create a Docker container to use instead of an EC2 instance
- J. Host the containerized application on Amazon Elastic Container Service (Amazon ECS). Configure Amazon CloudWatch Container Insights to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

Answer: B

Explanation:

Amazon AppFlow is a fully managed integration service that enables you to securely transfer data between Software-as-a-Service (SaaS) applications like Salesforce, SAP, Zendesk, Slack, and ServiceNow, and AWS services like Amazon S3 and Amazon Redshift, in just a few clicks.
<https://aws.amazon.com/appflow/>

NEW QUESTION 5

- (Topic 1)

A company hosts its web applications in the AWS Cloud. The company configures Elastic Load Balancers to use certificates that are imported into AWS Certificate Manager (ACM). The company's security team must be notified 30 days before the expiration of each certificate. What should a solutions architect recommend to meet the requirement?

- A. Add a rule in ACM to publish a custom message to an Amazon Simple Notification Service (Amazon SNS) topic every day beginning 30 days before any certificate will expire.
- B. Create an AWS Config rule that checks for certificates that will expire within 30 days
- C. Configure Amazon EventBridge (Amazon CloudWatch Events) to invoke a custom alert by way of Amazon Simple Notification Service (Amazon SNS) when AWS Config reports a noncompliant resource
- D. Use AWS Trusted Advisor to check for certificates that will expire within 30 days
- E. Create an Amazon CloudWatch alarm that is based on Trusted Advisor metrics for check status changes. Configure the alarm to send a custom alert by way of Amazon Simple Notification Service (Amazon SNS)
- F. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to detect any certificates that will expire within 30 days
- G. Configure the rule to invoke an AWS Lambda function
- H. Configure the Lambda function to send a custom alert by way of Amazon Simple Notification Service (Amazon SNS).

Answer: B

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/acm-certificate-expiration/>

NEW QUESTION 6

- (Topic 1)

A company has an application that ingests incoming messages. These messages are then quickly consumed by dozens of other applications and microservices. The number of messages varies drastically and sometimes spikes as high as 100,000 each second. The company wants to decouple the solution and increase scalability. Which solution meets these requirements?

- A. Persist the messages to Amazon Kinesis Data Analytics
- B. All the applications will read and process the messages.
- C. Deploy the application on Amazon EC2 instances in an Auto Scaling group, which scales the number of EC2 instances based on CPU metrics.
- D. Write the messages to Amazon Kinesis Data Streams with a single shard
- E. All applications will read from the stream and process the messages.
- F. Publish the messages to an Amazon Simple Notification Service (Amazon SNS) topic with one or more Amazon Simple Queue Service (Amazon SQS) subscriptions
- G. All applications then process the messages from the queues.

Answer: D

Explanation:

<https://aws.amazon.com/sqs/features/>

By routing incoming requests to Amazon SQS, the company can decouple the job requests from the processing instances. This allows them to scale the number of instances based on the size of the queue, providing more resources when needed. Additionally, using an Auto Scaling group based on the queue size will automatically scale the number of instances up or down depending on the workload. Updating the software to read from the queue will allow it to process the job requests in a more efficient manner, improving the performance of the system.

NEW QUESTION 7

- (Topic 1)

A company has an application that provides marketing services to stores. The services are based on previous purchases by store customers. The stores upload transaction data to the company through SFTP, and the data is processed and analyzed to generate new marketing offers. Some of the files can exceed 200 GB in size.

Recently, the company discovered that some of the stores have uploaded files that contain personally identifiable information (PII) that should not have been included. The company wants administrators to be alerted if PII is shared again. The company also wants to automate remediation.

What should a solutions architect do to meet these requirements with the LEAST development effort?

- A. Use an Amazon S3 bucket as a secure transfer point
- B. Use Amazon Inspector to scan the objects in the bucket
- C. If objects contain PII
- D. trigger an S3 Lifecycle policy to remove the objects that contain PII.

- E. Use an Amazon S3 bucket as a secure transfer point
- F. Use Amazon Macie to scan the objects in the bucket
- G. If objects contain PII
- H. Use Amazon Simple Notification Service (Amazon SNS) to trigger a notification to the administrators to remove the objects that contain PII.
- I. Implement custom scanning algorithms in an AWS Lambda function
- J. Trigger the function when objects are loaded into the bucket
- K. If objects contain RPI
- L. Use Amazon Simple Notification Service (Amazon SNS) to trigger a notification to the administrators to remove the objects that contain PII.
- M. Implement custom scanning algorithms in an AWS Lambda function
- N. Trigger the function when objects are loaded into the bucket
- O. If objects contain PII
- P. Use Amazon Simple Email Service (Amazon SES) to trigger a notification to the administrators and trigger on S3 Lifecycle policy to remove the objects that contain PII.

Answer: B

Explanation:

To meet the requirements of detecting and alerting the administrators when PII is shared and automating remediation with the least development effort, the best approach would be to use Amazon S3 bucket as a secure transfer point and scan the objects in the bucket with Amazon Macie. Amazon Macie is a fully managed data security and data privacy service that uses machine learning and pattern matching to discover and protect sensitive data stored in Amazon S3. It can be used to classify sensitive data, monitor access to sensitive data, and automate remediation actions.

In this scenario, after uploading the files to the Amazon S3 bucket, the objects can be scanned for PII by Amazon Macie, and if it detects any PII, it can trigger an Amazon Simple Notification Service (SNS) notification to alert the administrators to remove the objects containing PII. This approach requires the least development effort, as Amazon Macie already has pre-built data classification rules that can detect PII in various formats. Hence, option B is the correct answer.

References:

? Amazon Macie User Guide: <https://docs.aws.amazon.com/macie/latest/userguide/what-is-macie.html>

? AWS Well-Architected Framework - Security Pillar: <https://docs.aws.amazon.com/wellarchitected/latest/security-pillar/welcome.html>

NEW QUESTION 8

- (Topic 1)

A company hosts more than 300 global websites and applications. The company requires a platform to analyze more than 30 TB of clickstream data each day. What should a solutions architect do to transmit and process the clickstream data?

- A. Design an AWS Data Pipeline to archive the data to an Amazon S3 bucket and run an Amazon EMR cluster with the data to generate analytics
- B. Create an Auto Scaling group of Amazon EC2 instances to process the data and send it to an Amazon S3 data lake for Amazon Redshift to use for analysis
- C. Cache the data to Amazon CloudFront. Store the data in an Amazon S3 bucket. When an object is added to the S3 bucket, run an AWS Lambda function to process the data for analysis.
- D. Collect the data from Amazon Kinesis Data Stream
- E. Use Amazon Kinesis Data Firehose to transmit the data to an Amazon S3 data lake. Load the data in Amazon Redshift for analysis

Answer: D

Explanation:

<https://aws.amazon.com/es/blogs/big-data/real-time-analytics-with-amazon-redshift-streaming-ingestion/>

NEW QUESTION 9

- (Topic 1)

A development team runs monthly resource-intensive tests on its general purpose Amazon RDS for MySQL DB instance with Performance Insights enabled. The testing lasts for 48 hours once a month and is the only process that uses the database. The team wants to reduce the cost of running the tests without reducing the compute and memory attributes of the DB instance.

Which solution meets these requirements MOST cost-effectively?

- A. Stop the DB instance when tests are complete
- B. Restart the DB instance when required.
- C. Use an Auto Scaling policy with the DB instance to automatically scale when tests are completed.
- D. Create a snapshot when tests are complete
- E. Terminate the DB instance and restore the snapshot when required.
- F. Modify the DB instance to a low-capacity instance when tests are complete
- G. Modify the DB instance again when required.

Answer: A

Explanation:

To reduce the cost of running the tests without reducing the compute and memory attributes of the Amazon RDS for MySQL DB instance, the development team can stop the instance when tests are completed and restart it when required. Stopping the DB instance when not in use can help save costs because customers are only charged for storage while the DB instance is stopped. During this time, automated backups and automated DB instance maintenance are suspended. When the instance is restarted, it retains the same configurations, security groups, and DB parameter groups as when it was stopped.

Reference:

Amazon RDS Documentation: Stopping and Starting a DB instance (https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_StopInstance.html)

NEW QUESTION 10

- (Topic 1)

A company has a three-tier web application that is deployed on AWS. The web servers are deployed in a public subnet in a VPC. The application servers and database servers are deployed in private subnets in the same VPC. The company has deployed a third-party virtual firewall appliance from AWS Marketplace in an inspection VPC. The appliance is configured with an IP interface that can accept IP packets. A solutions architect needs to integrate the web application with the appliance to inspect all traffic to the application before the traffic reaches the web server. Which solution will meet these requirements with the LEAST operational overhead?

- A. Create a Network Load Balancer in the public subnet of the application's VPC to route the traffic to the appliance for packet inspection
- B. Create an Application Load Balancer in the public subnet of the application's VPC to route the traffic to the appliance for packet inspection

- C. Deploy a transit gateway in the inspection VPC Configure route tables to route the incoming packets through the transit gateway
- D. Deploy a Gateway Load Balancer in the inspection VPC Create a Gateway Load Balancer endpoint to receive the incoming packets and forward the packets to the appliance

Answer: D

Explanation:

<https://aws.amazon.com/blogs/networking-and-content-delivery/scaling-network-traffic-inspection-using-aws-gateway-load-balancer/>

NEW QUESTION 10

- (Topic 1)

A global company hosts its web application on Amazon EC2 instances behind an Application Load Balancer (ALB). The web application has static data and dynamic data. The company stores its static data in an Amazon S3 bucket. The company wants to improve performance and reduce latency for the static data and dynamic data. The company is using its own domain name registered with Amazon Route 53.

What should a solutions architect do to meet these requirements?

- A. Create an Amazon CloudFront distribution that has the S3 bucket and the ALB as origins Configure Route 53 to route traffic to the CloudFront distribution.
- B. Create an Amazon CloudFront distribution that has the ALB as an origin Create an AWS Global Accelerator standard accelerator that has the S3 bucket as an endpoint
- C. Configure Route 53 to route traffic to the CloudFront distribution.
- D. Create an Amazon CloudFront distribution that has the S3 bucket as an origin Create an AWS Global Accelerator standard accelerator that has the ALB and the CloudFront distribution as endpoints Create a custom domain name that points to the accelerator DNS name Use the custom domain name as an endpoint for the web application.
- E. Create an Amazon CloudFront distribution that has the ALB as an origin
- F. Create an AWS Global Accelerator standard accelerator that has the S3 bucket as an endpoint Create two domain name
- G. Point one domain name to the CloudFront DNS name for dynamic content, Point the other domain name to the accelerator DNS name for static content Use the domain names as endpoints for the web application.

Answer: C

Explanation:

Static content can be cached at Cloud front Edge locations from S3 and dynamic content EC2 behind the ALB whose performance can be improved by Global Accelerator whose one endpoint is ALB and other Cloud front. So with regards to custom domain name endpoint is web application is R53 alias records for the custom domain point to web application <https://aws.amazon.com/blogs/networking-and-content-delivery/improving-availability-and-performance-for-application-load-balancers-using-one-click-integration-with-aws-global-accelerator/>

NEW QUESTION 14

- (Topic 1)

A company stores call transcript files on a monthly basis. Users access the files randomly within 1 year of the call, but users access the files infrequently after 1 year. The company wants to optimize its solution by giving users the ability to query and retrieve files that are less than 1-year-old as quickly as possible. A delay in retrieving older files is acceptable.

Which solution will meet these requirements MOST cost-effectively?

- A. Store individual files with tags in Amazon S3 Glacier Instant Retrieval
- B. Query the tags to retrieve the files from S3 Glacier Instant Retrieval.
- C. Store individual files in Amazon S3 Intelligent-Tiering
- D. Use S3 Lifecycle policies to move the files to S3 Glacier Flexible Retrieval after 1 year
- E. Query and retrieve the files that are in Amazon S3 by using Amazon Athena
- F. Query and retrieve the files that are in S3 Glacier by using S3 Glacier Select.
- G. Store individual files with tags in Amazon S3 Standard storage
- H. Store search metadata for each archive in Amazon S3 Standard storage
- I. Use S3 Lifecycle policies to move the files to S3 Glacier Instant Retrieval after 1 year
- J. Query and retrieve the files by searching for metadata from Amazon S3.
- K. Store individual files in Amazon S3 Standard storage
- L. Use S3 Lifecycle policies to move the files to S3 Glacier Deep Archive after 1 year
- M. Store search metadata in Amazon Redshift
- N. Query the files from Amazon Redshift
- O. Retrieve the files from S3 Glacier Deep Archive.

Answer: B

Explanation:

"For archive data that needs immediate access, such as medical images, news media assets, or genomics data, choose the S3 Glacier Instant Retrieval storage class, an archive storage class that delivers the lowest cost storage with milliseconds retrieval. For archive data that does not require immediate access but needs the flexibility to retrieve large sets of data at no cost, such as backup or disaster recovery use cases, choose S3 Glacier Flexible Retrieval (formerly S3 Glacier), with retrieval in minutes or free bulk retrievals in 5- 12 hours." <https://aws.amazon.com/about-aws/whats-new/2021/11/amazon-s3-glacier-instant-retrieval-storage-class/>

NEW QUESTION 19

- (Topic 1)

A company is implementing a new business application. The application runs on two Amazon EC2 instances and uses an Amazon S3 bucket for document storage. A solutions architect needs to ensure that the EC2 instances can access the S3 bucket.

What should the solutions architect do to meet this requirement?

- A. Create an IAM role that grants access to the S3 bucket
- B. Attach the role to the EC2 instances.
- C. Create an IAM policy that grants access to the S3 bucket
- D. Attach the policy to the EC2 instances.
- E. Create an IAM group that grants access to the S3 bucket
- F. Attach the group to the EC2 instances.

- G. Create an IAM user that grants access to the S3 bucket
- H. Attach the user account to the EC2 instances.

Answer: A

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/ec2-instance-access-s3-bucket/>

NEW QUESTION 22

- (Topic 1)

A company uses NFS to store large video files in on-premises network attached storage. Each video file ranges in size from 1MB to 500 GB. The total storage is 70 TB and is no longer growing. The company decides to migrate the video files to Amazon S3. The company must migrate the video files as soon as possible while using the least possible network bandwidth.

Which solution will meet these requirements?

- A. Create an S3 bucket Create an IAM role that has permissions to write to the S3 bucket
- B. Use the AWS CLI to copy all files locally to the S3 bucket.
- C. Create an AWS Snowball Edge job
- D. Receive a Snowball Edge device on premise
- E. Use the Snowball Edge client to transfer data to the device
- F. Return the device so that AWS can import the data into Amazon S3.
- G. Deploy an S3 File Gateway on premise
- H. Create a public service endpoint to connect to the S3 File Gateway Create an S3 bucket Create a new NFS file share on the S3 File Gateway Point the new file share to the S3 bucket
- I. Transfer the data from the existing NFS file share to the S3 File Gateway.
- J. Set up an AWS Direct Connect connection between the on-premises network and AWS
- K. Deploy an S3 File Gateway on premise
- L. Create a public virtual interface (VIF) to connect to the S3 File Gateway
- M. Create an S3 bucket
- N. Create a new NFS file share on the S3 File Gateway
- O. Point the new file share to the S3 bucket
- P. Transfer the data from the existing NFS file share to the S3 File Gateway.

Answer: B

Explanation:

The basic difference between Snowball and Snowball Edge is the capacity they provide. Snowball provides a total of 50 TB or 80 TB, out of which 42 TB or 72 TB is available, while Amazon Snowball Edge provides 100 TB, out of which 83 TB is available.

NEW QUESTION 24

- (Topic 1)

A company has a production workload that runs on 1,000 Amazon EC2 Linux instances. The workload is powered by third-party software. The company needs to patch the third-party software on all EC2 instances as quickly as possible to remediate a critical security vulnerability.

What should a solutions architect do to meet these requirements?

- A. Create an AWS Lambda function to apply the patch to all EC2 instances.
- B. Configure AWS Systems Manager Patch Manager to apply the patch to all EC2 instances.
- C. Schedule an AWS Systems Manager maintenance window to apply the patch to all EC2 instances.
- D. Use AWS Systems Manager Run Command to run a custom command that applies the patch to all EC2 instances.

Answer: B

Explanation:

<https://docs.aws.amazon.com/systems-manager/latest/userguide/about-windows-app-patching.html>

NEW QUESTION 29

- (Topic 1)

A company hosts its multi-tier applications on AWS. For compliance, governance, auditing, and security, the company must track configuration changes on its AWS resources and record a history of API calls made to these resources.

What should a solutions architect do to meet these requirements?

- A. Use AWS CloudTrail to track configuration changes and AWS Config to record API calls
- B. Use AWS Config to track configuration changes and AWS CloudTrail to record API calls
- C. Use AWS Config to track configuration changes and Amazon CloudWatch to record API calls
- D. Use AWS CloudTrail to track configuration changes and Amazon CloudWatch to record API calls

Answer: B

Explanation:

AWS Config is a fully managed service that allows the company to assess, audit, and evaluate the configurations of its AWS resources. It provides a detailed inventory of the resources in use and tracks changes to resource configurations. AWS Config can detect configuration changes and alert the company when changes occur. It also provides a historical view of changes, which is essential for compliance and governance purposes. AWS CloudTrail is a fully managed service that provides a detailed history of API calls made to the company's AWS resources. It records all API activity in the AWS account, including who made the API call, when the call was made, and what resources were affected by the call. This information is critical for security and auditing purposes, as it allows the company to investigate any suspicious activity that might occur on its AWS resources.

NEW QUESTION 34

- (Topic 1)

A company runs an on-premises application that is powered by a MySQL database. The company is migrating the application to AWS to increase the application's

elasticity and availability

The current architecture shows heavy read activity on the database during times of normal operation Every 4 hours the company's development team pulls a full export of the production database to populate a database in the staging environment During this period, users experience unacceptable application latency The development team is unable to use the staging environment until the procedure completes

A solutions architect must recommend replacement architecture that alleviates the application latency issue The replacement architecture also must give the development team the ability to continue using the staging environment without delay

Which solution meets these requirements?

- A. Use Amazon Aurora MySQL with Multi-AZ Aurora Replicas for productio
- B. Populate the staging database by implementing a backup and restore process that uses the mysqldump utility.
- C. Use Amazon Aurora MySQL with Multi-AZ Aurora Replicas for production Use database cloning to create the staging database on-demand
- D. Use Amazon RDS for MySQL with a Mufti AZ deployment and read replicas for production Use the standby instance tor the staging database.
- E. Use Amazon RDS for MySQL with a Multi-AZ deployment and read replicas for productio
- F. Populate the staging database by implementing a backup and restore process that uses the mysqldump utility.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/aws/amazon-aurora-fast-database-cloning/>

NEW QUESTION 37

- (Topic 1)

A company provides a Voice over Internet Protocol (VoIP) service that uses UDP connections. The service consists of Amazon EC2 instances that run in an Auto Scaling group. The company has deployments across multiple AWS Regions.

The company needs to route users to the Region with the lowest latency. The company also needs automated failover between Regions.

Which solution will meet these requirements?

- A. Deploy a Network Load Balancer (NLB) and an associated target grou
- B. Associate the target group with the Auto Scaling grou
- C. Use the NLB as an AWS Global Accelerator endpoint in each Region.
- D. Deploy an Application Load Balancer (ALB) and an associated target grou
- E. Associate the target group with the Auto Scaling grou
- F. Use the ALB as an AWS Global Accelerator endpoint in each Region.
- G. Deploy a Network Load Balancer (NLB) and an associated target grou
- H. Associate the target group with the Auto Scaling grou
- I. Create an Amazon Route 53 latency record that points to aliases for each NL
- J. Create an Amazon CloudFront distribution that uses the latency record as an origin.
- K. Deploy an Application Load Balancer (ALB) and an associated target grou
- L. Associate the target group with the Auto Scaling grou
- M. Create an Amazon Route 53 weighted record that points to aliases for each AL
- N. Deploy an Amazon CloudFront distribution that uses the weighted record as an origin.

Answer: D

Explanation:

<https://aws.amazon.com/global-accelerator/faqs/>

HTTP /HTTPS - ALB ; TCP and UDP - NLB; Lowest latency routing and more throughput. Also supports failover, uses Anycast Ip addressing - Global Accelerator Caching at Egde Locations – Cloutfront

WS Global Accelerator automatically checks the health of your applications and routes user traffic only to healthy application endpoints. If the health status changes or you make configuration updates, AWS Global Accelerator reacts instantaneously to route your users to the next available endpoint..

NEW QUESTION 42

- (Topic 1)

A company wants to run its critical applications in containers to meet requirements tor scalability and availability The company prefers to focus on maintenance of the critical applications The company does not want to be responsible for provisioning and managing the underlying infrastructure that runs the containerized workload

What should a solutions architect do to meet those requirements?

- A. Use Amazon EC2 Instances, and Install Docker on the Instances
- B. Use Amazon Elastic Container Service (Amazon ECS) on Amazon EC2 worker nodes
- C. Use Amazon Elastic Container Service (Amazon ECS) on AWS Fargate
- D. Use Amazon EC2 instances from an Amazon Elastic Container Service (Amazon ECS)- op6mized Amazon Machine Image (AMI).

Answer: C

Explanation:

using AWS ECS on AWS Fargate since they requirements are for scalability and availability without having to provision and manage the underlying infrastructure to run the containerized workload. <https://docs.aws.amazon.com/AmazonECS/latest/userguide/what-is-fargate.html>

NEW QUESTION 46

- (Topic 1)

A company is hosting a static website on Amazon S3 and is using Amazon Route 53 for DNS. The website is experiencing increased demand from around the world. The company must decrease latency for users who access the website.

Which solution meets these requirements MOST cost-effectively?

- A. Replicate the S3 bucket that contains the website to all AWS Region
- B. Add Route 53 geolocation routing entries.
- C. Provision accelerators in AWS Global Accelerato
- D. Associate the supplied IP addresses with the S3 bucke
- E. Edit the Route 53 entries to point to the IP addresses of the accelerators.

- F. Add an Amazon CloudFront distribution in front of the S3 bucket.
- G. Edit the Route 53 entries to point to the CloudFront distribution.
- H. Enable S3 Transfer Acceleration on the bucket.
- I. Edit the Route 53 entries to point to the new endpoint.

Answer: C

Explanation:

Amazon CloudFront is a content delivery network (CDN) that caches content at edge locations around the world, providing low latency and high transfer speeds to users accessing the content. Adding a CloudFront distribution in front of the S3 bucket will cache the static website's content at edge locations around the world, decreasing latency for users accessing the website. This solution is also cost-effective as it only charges for the data transfer and requests made by users accessing the content from the CloudFront edge locations. Additionally, this solution provides scalability and reliability benefits as CloudFront can automatically scale to handle increased demand and provide high availability for the website.

NEW QUESTION 51

- (Topic 1)

A company is building an ecommerce web application on AWS. The application sends information about new orders to an Amazon API Gateway REST API to process. The company wants to ensure that orders are processed in the order that they are received. Which solution will meet these requirements?

- A. Use an API Gateway integration to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic when the application receives an order.
- B. Subscribe an AWS Lambda function to the topic to perform processing.
- C. Use an API Gateway integration to send a message to an Amazon Simple Queue Service (Amazon SQS) FIFO queue when the application receives an order.
- D. Configure the SQS FIFO queue to invoke an AWS Lambda function for processing.
- E. Use an API Gateway authorizer to block any requests while the application processes an order.
- F. Use an API Gateway integration to send a message to an Amazon Simple Queue Service (Amazon SQS) standard queue when the application receives an order.
- G. Configure the SQS standard queue to invoke an AWS Lambda function for processing.

Answer: B

Explanation:

To ensure that orders are processed in the order that they are received, the best solution is to use an Amazon SQS FIFO (First-In-First-Out) queue. This type of queue maintains the exact order in which messages are sent and received. In this case, the application can send information about new orders to an Amazon API Gateway REST API, which can then use an API Gateway integration to send a message to an Amazon SQS FIFO queue for processing. The queue can then be configured to invoke an AWS Lambda function to perform the necessary processing on each order. This ensures that orders are processed in the exact order in which they are received.

NEW QUESTION 53

- (Topic 1)

A company recently migrated a message processing system to AWS. The system receives messages into an ActiveMQ queue running on an Amazon EC2 instance. Messages are processed by a consumer application running on Amazon EC2. The consumer application processes the messages and writes results to a MySQL database running on Amazon EC2. The company wants this application to be highly available with low operational complexity. Which architecture offers the HIGHEST availability?

- A. Add a second ActiveMQ server to another Availability Zone. Add an additional consumer EC2 instance in another Availability Zone.
- B. Replicate the MySQL database to another Availability Zone.
- C. Use Amazon MQ with active/standby brokers configured across two Availability Zones. Add an additional consumer EC2 instance in another Availability Zone.
- D. Replicate the MySQL database to another Availability Zone.
- E. Use Amazon MQ with active/standby brokers configured across two Availability Zones.
- F. Add an additional consumer EC2 instance in another Availability Zone.
- G. Use Amazon RDS for MySQL with Multi-AZ enabled.
- H. Use Amazon MQ with active/standby brokers configured across two Availability Zones. Add an Auto Scaling group for the consumer EC2 instances across two Availability Zones.
- I. Use Amazon RDS for MySQL with Multi-AZ enabled.

Answer: D

Explanation:

Amazon S3 is a highly scalable and durable object storage service that can store and retrieve any amount of data from anywhere on the web¹. Users can configure the application to upload images directly from each user's browser to Amazon S3 through the use of a presigned URL. A presigned URL is a URL that gives access to an object in an S3 bucket for a limited time and with a specific action, such as uploading an object². Users can generate a presigned URL programmatically using the AWS SDKs or AWS CLI. By using a presigned URL, users can reduce coupling within the application and improve website performance, as they do not need to send the images to the web server first. AWS Lambda is a serverless compute service that runs code in response to events and automatically manages the underlying compute resources³. Users can configure S3 Event Notifications to invoke an AWS Lambda function when an image is uploaded. S3 Event Notifications is a feature that allows users to receive notifications when certain events happen in an S3 bucket, such as object creation or deletion. Users can configure S3 Event Notifications to invoke a Lambda function that resizes the image and stores it back in the same or a different S3 bucket. This way, users can offload the image resizing task from the web server to Lambda.

NEW QUESTION 58

- (Topic 1)

A company has a website hosted on AWS. The website is behind an Application Load Balancer (ALB) that is configured to handle HTTP and HTTPS separately. The company wants to forward all requests to the website so that the requests will use HTTPS. What should a solutions architect do to meet this requirement?

- A. Update the ALB's network ACL to accept only HTTPS traffic.
- B. Create a rule that replaces the HTTP in the URL with HTTPS.
- C. Create a listener rule on the ALB to redirect HTTP traffic to HTTPS.
- D. Replace the ALB with a Network Load Balancer configured to use Server Name Indication (SNI).

Answer: C

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/elb-redirect-http-to-https-using-alb/>

How can I redirect HTTP requests to HTTPS using an Application Load Balancer? Last updated: 2020-10-30 I want to redirect HTTP requests to HTTPS using Application Load Balancer listener rules. How can I do this? Resolution Reference: <https://aws.amazon.com/premiumsupport/knowledge-center/elb-redirect-http-to-https-using-alb/>

NEW QUESTION 63

- (Topic 1)

A company is launching a new application and will display application metrics on an Amazon CloudWatch dashboard. The company's product manager needs to access this dashboard periodically. The product manager does not have an AWS account. A solution architect must provide access to the product manager by following the principle of least privilege.

Which solution will meet these requirements?

- A. Share the dashboard from the CloudWatch console
- B. Enter the product manager's email address, and complete the sharing step
- C. Provide a shareable link for the dashboard to the product manager.
- D. Create an IAM user specifically for the product manager
- E. Attach the CloudWatch Read Only Access managed policy to the user
- F. Share the new login credential with the product manager
- G. Share the browser URL of the correct dashboard with the product manager.
- H. Create an IAM user for the company's employees, Attach the View Only Access AWS managed policy to the IAM user
- I. Share the new login credentials with the product manager
- J. Ask the product manager to navigate to the CloudWatch console and locate the dashboard by name in the Dashboards section.
- K. Deploy a bastion server in a public subnet
- L. When the product manager requires access to the dashboard, start the server and share the RDP credential
- M. On the bastion server, ensure that the browser is configured to open the dashboard URL with cached AWS credentials that have appropriate permissions to view the dashboard.

Answer: B

Explanation:

To provide the product manager access to the Amazon CloudWatch dashboard while following the principle of least privilege, a solution architect should create an IAM user specifically for the product manager and attach the CloudWatch Read Only Access managed policy to the user. This policy allows the user to view the dashboard without being able to make any changes to it. The solution architect should then share the new login credential with the product manager and provide them with the browser URL of the correct dashboard.

NEW QUESTION 65

- (Topic 1)

A company has created an image analysis application in which users can upload photos and add photo frames to their images. The users upload images and metadata to indicate which photo frames they want to add to their images. The application uses a single Amazon EC2 instance and Amazon DynamoDB to store the metadata.

The application is becoming more popular, and the number of users is increasing. The company expects the number of concurrent users to vary significantly depending on the time of day and day of week. The company must ensure that the application can scale to meet the needs of the growing user base.

Which solution meets these requirements?

- A. Use AWS Lambda to process the photo
- B. Store the photos and metadata in DynamoDB.
- C. Use Amazon Kinesis Data Firehose to process the photos and to store the photos and metadata.
- D. Use AWS Lambda to process the photo
- E. Store the photos in Amazon S3. Retain DynamoDB to store the metadata.
- F. Increase the number of EC2 instances to three
- G. Use Provisioned IOPS SSD (io2) Amazon Elastic Block Store (Amazon EBS) volumes to store the photos and metadata.

Answer: C

Explanation:

<https://www.quora.com/How-can-I-use-DynamoDB-for-storing-metadata-for-Amazon-S3-objects>

This solution meets the requirements of scalability, performance, and availability. AWS Lambda can process the photos in parallel and scale up or down automatically depending on the demand. Amazon S3 can store the photos and metadata reliably and durably, and provide high availability and low latency.

DynamoDB can store the metadata efficiently and provide consistent performance. This solution also reduces the cost and complexity of managing EC2 instances and EBS volumes.

Option A is incorrect because storing the photos in DynamoDB is not a good practice, as it can increase the storage cost and limit the throughput. Option B is incorrect because Kinesis Data Firehose is not designed for processing photos, but for streaming data to destinations such as S3 or Redshift. Option D is incorrect because increasing the number of EC2 instances and using Provisioned IOPS SSD volumes does not guarantee scalability, as it depends on the load balancer and the application code. It also increases the cost and complexity of managing the infrastructure.

References:

? <https://aws.amazon.com/certification/certified-solutions-architect-professional/>

? <https://www.examtips.com/discussions/amazon/view/7193-exam-aws-certified-solutions-architect-professional-topic-1/>

? <https://aws.amazon.com/architecture/>

NEW QUESTION 70

- (Topic 1)

A company wants to migrate an on-premises data center to AWS. The data center hosts an SFTP server that stores its data on an NFS-based file system. The server holds 200 GB of data that needs to be transferred. The server must be hosted on an Amazon EC2 instance that uses an Amazon Elastic File System (Amazon EFS) file system

When combination of steps should a solutions architect take to automate this task? (Select TWO)

- A. Launch the EC2 instance into the same Availability Zone as the EFS file system

- B. install an AWS DataSync agent in the on-premises data center
- C. Create a secondary Amazon Elastic Block Store (Amazon EBS) volume on the EC2 instance for the data
- D. Manually use an operating system copy command to push the data to the EC2 instance
- E. Use AWS DataSync to create a suitable location configuration for the on-premises SFTP server

Answer: BE

Explanation:

AWS DataSync is an online data movement and discovery service that simplifies data migration and helps users quickly, easily, and securely move their file or object data to, from, and between AWS storage services¹. Users can use AWS DataSync to transfer data between on-premises and AWS storage services. To use AWS DataSync, users need to install an AWS DataSync agent in the on-premises data center. The agent is a software appliance that connects to the source or destination storage system and handles the data transfer to or from AWS over the network². Users also need to use AWS DataSync to create a suitable location configuration for the on-premises SFTP server. A location is a logical representation of a storage system that contains files or objects that users want to transfer using DataSync. Users can create locations for NFS shares, SMB shares, HDFS file systems, self-managed object storage, Amazon S3 buckets, Amazon EFS file systems, Amazon FSx for Windows File Server file systems, Amazon FSx for Lustre file systems, Amazon FSx for OpenZFS file systems, Amazon FSx for NetApp ONTAP file systems, and AWS Snowcone devices³.

NEW QUESTION 73

- (Topic 1)

A company has a data ingestion workflow that consists of the following:

? An Amazon Simple Notification Service (Amazon SNS) topic for notifications about new data deliveries

? An AWS Lambda function to process the data and record metadata

The company observes that the ingestion workflow fails occasionally because of network connectivity issues. When such a failure occurs, the Lambda function does not ingest the corresponding data unless the company manually reruns the job.

Which combination of actions should a solutions architect take to ensure that the Lambda function ingests all data in the future? (Select TWO.)

- A. Configure the Lambda function in multiple Availability Zones.
- B. Create an Amazon Simple Queue Service (Amazon SQS) queue, and subscribe it to the SNS topic.
- C. Increase the CPU and memory that are allocated to the Lambda function.
- D. Increase provisioned throughput for the Lambda function.
- E. Modify the Lambda function to read from an Amazon Simple Queue Service (Amazon SQS) queue

Answer: BE

Explanation:

To ensure that the Lambda function ingests all data in the future despite occasional network connectivity issues, the following actions should be taken:

? Create an Amazon Simple Queue Service (SQS) queue and subscribe it to the SNS topic. This allows for decoupling of the notification and processing, so that even if the processing Lambda function fails, the message remains in the queue for further processing later.

? Modify the Lambda function to read from the SQS queue instead of directly from SNS. This decoupling allows for retries and fault tolerance and ensures that all messages are processed by the Lambda function.

Reference:

AWS SNS documentation: <https://aws.amazon.com/sns/> AWS SQS documentation: <https://aws.amazon.com/sqs/>

AWS Lambda documentation: <https://aws.amazon.com/lambda/>

NEW QUESTION 77

- (Topic 1)

A company needs to keep user transaction data in an Amazon DynamoDB table. The company must retain the data for 7 years.

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

- A. Use DynamoDB point-in-time recovery to back up the table continuously.
- B. Use AWS Backup to create backup schedules and retention policies for the table.
- C. Create an on-demand backup of the table by using the DynamoDB console
- D. Store the backup in an Amazon S3 bucket
- E. Set an S3 Lifecycle configuration for the S3 bucket.
- F. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to invoke an AWS Lambda function
- G. Configure the Lambda function to back up the table and to store the backup in an Amazon S3 bucket
- H. Set an S3 Lifecycle configuration for the S3 bucket.

Answer: C

NEW QUESTION 82

- (Topic 1)

A company hosts a data lake on AWS. The data lake consists of data in Amazon S3 and Amazon RDS for PostgreSQL. The company needs a reporting solution that provides data visualization and includes all the data sources within the data lake. Only the company's management team should have full access to all the visualizations. The rest of the company should have only limited access.

Which solution will meet these requirements?

- A. Create an analysis in Amazon QuickSight
- B. Connect all the data sources and create new dataset
- C. Publish dashboards to visualize the data
- D. Share the dashboards with the appropriate IAM roles.
- E. Create an analysis in Amazon QuickSight
- F. Connect all the data sources and create new dataset
- G. Publish dashboards to visualize the data
- H. Share the dashboards with the appropriate users and groups.
- I. Create an AWS Glue table and crawler for the data in Amazon S3. Create an AWS Glue extract, transform, and load (ETL) job to produce report
- J. Publish the reports to Amazon S3. Use S3 bucket policies to limit access to the reports.
- K. Create an AWS Glue table and crawler for the data in Amazon S3. Use Amazon Athena Federated Query to access data within Amazon RDS for PostgreSQL
- L. Generate reports by using Amazon Athena

M. Publish the reports to Amazon S3. Use S3 bucket policies to limit access to the reports.

Answer: B

Explanation:

Amazon QuickSight is a data visualization service that allows you to create interactive dashboards and reports from various data sources, including Amazon S3 and Amazon RDS for PostgreSQL. You can connect all the data sources and create new datasets in QuickSight, and then publish dashboards to visualize the data. You can also share the dashboards with the appropriate users and groups, and control their access levels using IAM roles and permissions.

Reference: <https://docs.aws.amazon.com/quicksight/latest/user/working-with-data-sources.html>

NEW QUESTION 86

- (Topic 1)

A company has applications that run on Amazon EC2 instances in a VPC. One of the applications needs to call the Amazon S3 API to store and read objects. According to the company's security regulations, no traffic from the applications is allowed to travel across the internet. Which solution will meet these requirements?

- A. Configure an S3 interface endpoint.
- B. Configure an S3 gateway endpoint.
- C. Create an S3 bucket in a private subnet.
- D. Create an S3 bucket in the same Region as the EC2 instance.

Answer: B

Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/privatelink-interface-endpoints.html#types-of-vpc-endpoints-for-s3>

<https://docs.aws.amazon.com/vpc/latest/userguide/vpc-endpoints-s3.html>

NEW QUESTION 87

- (Topic 1)

A company recently launched Linux-based application instances on Amazon EC2 in a private subnet and launched a Linux-based bastion host on an Amazon EC2 instance in a public subnet of a VPC. A solutions architect needs to connect from the on-premises network, through the company's internet connection to the bastion host and to the application servers. The solutions architect must make sure that the security groups of all the EC2 instances will allow that access.

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

- A. Replace the current security group of the bastion host with one that only allows inbound access from the application instances.
- B. Replace the current security group of the bastion host with one that only allows inbound access from the internal IP range for the company.
- C. Replace the current security group of the bastion host with one that only allows inbound access from the external IP range for the company.
- D. Replace the current security group of the application instances with one that allows inbound SSH access from only the private IP address of the bastion host.
- E. Replace the current security group of the application instances with one that allows inbound SSH access from only the public IP address of the bastion host.

Answer: CD

Explanation:

<https://digitalcloud.training/ssh-into-ec2-in-private-subnet/>

NEW QUESTION 89

- (Topic 1)

A company is running an SMB file server in its data center. The file server stores large files that are accessed frequently for the first few days after the files are created. After 7 days the files are rarely accessed.

The total data size is increasing and is close to the company's total storage capacity. A solutions architect must increase the company's available storage space without losing low-latency access to the most recently accessed files. The solutions architect must also provide file lifecycle management to avoid future storage issues.

Which solution will meet these requirements?

- A. Use AWS DataSync to copy data that is older than 7 days from the SMB file server to AWS.
- B. Create an Amazon S3 File Gateway to extend the company's storage space.
- C. Create an S3 Lifecycle policy to transition the data to S3 Glacier Deep Archive after 7 days.
- D. Create an Amazon FSx for Windows File Server file system to extend the company's storage space.
- E. Install a utility on each user's computer to access Amazon S3. Create an S3 Lifecycle policy to transition the data to S3 Glacier Flexible Retrieval after 7 days.

Answer: B

Explanation:

Amazon S3 File Gateway is a hybrid cloud storage service that enables on-premises applications to seamlessly use Amazon S3 cloud storage. It provides a file interface to Amazon S3 and supports SMB and NFS protocols. It also supports S3 Lifecycle policies that can automatically transition data from S3 Standard to S3 Glacier Deep Archive after a specified period of time. This solution will meet the requirements of increasing the company's available storage space without losing low-latency access to the most recently accessed files and providing file lifecycle management to avoid future storage issues.

Reference:

<https://docs.aws.amazon.com/storagegateway/latest/userguide/WhatIsStorageGateway.html>

NEW QUESTION 94

- (Topic 1)

A company is storing sensitive user information in an Amazon S3 bucket. The company wants to provide secure access to this bucket from the application tier running on Amazon EC2 instances inside a VPC.

Which combination of steps should a solutions architect take to accomplish this? (Select TWO.)

- A. Configure a VPC gateway endpoint for Amazon S3 within the VPC.
- B. Create a bucket policy to make the objects in the S3 bucket public.

- C. Create a bucket policy that limits access to only the application tier running in the VPC
- D. Create an IAM user with an S3 access policy and copy the IAM credentials to the EC2 instance
- E. Create a NAT instance and have the EC2 instances use the NAT instance to access the S3 bucket

Answer: AC

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/s3-private-connection-no-authentication/>

NEW QUESTION 98

- (Topic 1)

A solutions architect must design a highly available infrastructure for a website. The website is powered by Windows web servers that run on Amazon EC2 instances. The solutions architect must implement a solution that can mitigate a large-scale DDoS attack that originates from thousands of IP addresses. Downtime is not acceptable for the website.

Which actions should the solutions architect take to protect the website from such an attack? (Select TWO.)

- A. Use AWS Shield Advanced to stop the DDoS attack.
- B. Configure Amazon GuardDuty to automatically block the attackers.
- C. Configure the website to use Amazon CloudFront for both static and dynamic content.
- D. Use an AWS Lambda function to automatically add attacker IP addresses to VPC network ACLs.
- E. Use EC2 Spot Instances in an Auto Scaling group with a target tracking scaling policy that is set to 80% CPU utilization

Answer: AC

Explanation:

(<https://aws.amazon.com/cloudfront>)

NEW QUESTION 99

- (Topic 1)

A company is building an application in the AWS Cloud. The application will store data in Amazon S3 buckets in two AWS Regions. The company must use an AWS Key Management Service (AWS KMS) customer managed key to encrypt all data that is stored in the S3 buckets. The data in both S3 buckets must be encrypted and decrypted with the same KMS key. The data and the key must be stored in each of the two Regions.

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

- A. Create an S3 bucket in each Region Configure the S3 buckets to use server-side encryption with Amazon S3 managed encryption keys (SSE-S3) Configure replication between the S3 buckets.
- B. Create a customer managed multi-Region KMS key
- C. Create an S3 bucket in each Region
- D. Configure replication between the S3 buckets
- E. Configure the application to use the KMS key with client-side encryption.
- F. Create a customer managed KMS key and an S3 bucket in each Region Configure the S3 buckets to use server-side encryption with Amazon S3 managed encryption keys (SSE-S3) Configure replication between the S3 buckets.
- G. Create a customer managed KMS key and an S3 bucket in each Region Configure the S3 buckets to use server-side encryption with AWS KMS keys (SSE-KMS) Configure replication between the S3 buckets.

Answer: B

Explanation:

From <https://docs.aws.amazon.com/kms/latest/developerguide/custom-key-store-overview.html>

For most users, the default AWS KMS key store, which is protected by FIPS 140-2 validated cryptographic modules, fulfills their security requirements. There is no need to add an extra layer of maintenance responsibility or a dependency on an additional service. However, you might consider creating a custom key store if your organization has any of the following requirements: Key material cannot be stored in a shared environment. Key material must be subject to a secondary, independent audit path. The HSMs that generate and store key material must be certified at FIPS 140-2 Level 3.

<https://docs.aws.amazon.com/kms/latest/developerguide/custom-key-store-overview.html>

<https://docs.aws.amazon.com/kms/latest/developerguide/multi-region-keys-overview.html>

NEW QUESTION 101

- (Topic 1)

A company is planning to use an Amazon DynamoDB table for data storage. The company is concerned about cost optimization. The table will not be used on most mornings. In the evenings, the read and write traffic will often be unpredictable. When traffic spikes occur, they will happen very quickly.

What should a solutions architect recommend?

- A. Create a DynamoDB table in on-demand capacity mode.
- B. Create a DynamoDB table with a global secondary index.
- C. Create a DynamoDB table with provisioned capacity and auto scaling.
- D. Create a DynamoDB table in provisioned capacity mode, and configure it as a global table.

Answer: A

NEW QUESTION 102

- (Topic 1)

A solutions architect is designing a new hybrid architecture to extend a company's on-premises infrastructure to AWS. The company requires a highly available connection with consistent low latency to an AWS Region. The company needs to minimize costs and is willing to accept slower traffic if the primary connection fails.

What should the solutions architect do to meet these requirements?

- A. Provision an AWS Direct Connect connection to a Region. Provision a VPN connection as a backup if the primary Direct Connect connection fails.
- B. Provision a VPN tunnel connection to a Region for private connectivity.
- C. Provision a second VPN tunnel for private connectivity and as a backup if the primary VPN connection fails.

- D. Provision an AWS Direct Connect connection to a Region Provision a second Direct Connect connection to the same Region as a backup if the primary Direct Connect connection fails.
- E. Provision an AWS Direct Connect connection to a Region Use the Direct Connect failover attribute from the AWS CLI to automatically create a backup connection if the primary Direct Connect connection fails.

Answer: A

Explanation:

"In some cases, this connection alone is not enough. It is always better to guarantee a fallback connection as the backup of DX. There are several options, but implementing it with an AWS Site-To-Site VPN is a real cost-effective solution that can be exploited to reduce costs or, in the meantime, wait for the setup of a second DX." <https://www.proud2becloud.com/hybrid-cloud-networking-backup-aws-direct-connect-network-connection-with-aws-site-to-site-vpn/>

NEW QUESTION 107

- (Topic 1)

A company has an Amazon S3 bucket that contains critical data. The company must protect the data from accidental deletion. Which combination of steps should a solutions architect take to meet these requirements? (Choose two.)

- A. Enable versioning on the S3 bucket.
- B. Enable MFA Delete on the S3 bucket.
- C. Create a bucket policy on the S3 bucket.
- D. Enable default encryption on the S3 bucket.
- E. Create a lifecycle policy for the objects in the S3 bucket.

Answer: AB

Explanation:

To protect data in an S3 bucket from accidental deletion, versioning should be enabled, which enables you to preserve, retrieve, and restore every version of every object in an S3 bucket. Additionally, enabling MFA (multi-factor authentication) Delete on the S3 bucket adds an extra layer of protection by requiring an authentication token in addition to the user's access keys to delete objects in the bucket.

Reference:

AWS S3 Versioning documentation: <https://docs.aws.amazon.com/AmazonS3/latest/dev/Versioning.html>

AWS S3 MFA Delete documentation: <https://docs.aws.amazon.com/AmazonS3/latest/dev/UsingMFADelete.html>

NEW QUESTION 112

- (Topic 1)

A company's dynamic website is hosted using on-premises servers in the United States. The company is launching its product in Europe, and it wants to optimize site loading times for new European users. The site's backend must remain in the United States. The product is being launched in a few days, and an immediate solution is needed.

What should the solutions architect recommend?

- A. Launch an Amazon EC2 instance in us-east-1 and migrate the site to it.
- B. Move the website to Amazon S3. Use cross-Region replication between Regions.
- C. Use Amazon CloudFront with a custom origin pointing to the on-premises servers.
- D. Use an Amazon Route 53 geo-proximity routing policy pointing to on-premises servers.

Answer: C

Explanation:

<https://aws.amazon.com/pt/blogs/aws/amazon-cloudfront-support-for-custom-origins/>

You can now create a CloudFront distribution using a custom origin. Each distribution will can point to an S3 or to a custom origin. This could be another storage service, or it could be something more interesting and more dynamic, such as an EC2 instance or even an Elastic Load Balancer

NEW QUESTION 114

- (Topic 1)

A company wants to migrate its on-premises application to AWS. The application produces output files that vary in size from tens of gigabytes to hundreds of terabytes The application data must be stored in a standard file system structure The company wants a solution that scales automatically, is highly available, and requires minimum operational overhead.

Which solution will meet these requirements?

- A. Migrate the application to run as containers on Amazon Elastic Container Service (Amazon ECS) Use Amazon S3 for storage
- B. Migrate the application to run as containers on Amazon Elastic Kubernetes Service (Amazon EKS) Use Amazon Elastic Block Store (Amazon EBS) for storage
- C. Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group
- D. Use Amazon Elastic File System (Amazon EFS) for storage.
- E. Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group
- F. Use Amazon Elastic Block Store (Amazon EBS) for storage.

Answer: C

Explanation:

EFS is a standard file system, it scales automatically and is highly available.

NEW QUESTION 116

- (Topic 1)

A social media company allows users to upload images to its website. The website runs on Amazon EC2 instances. During upload requests, the website resizes the images to a standard size and stores the resized images in Amazon S3. Users are experiencing slow upload requests to the website.

The company needs to reduce coupling within the application and improve website performance. A solutions architect must design the most operationally efficient process for image uploads.

Which combination of actions should the solutions architect take to meet these requirements? (Choose two.)

- A. Configure the application to upload images to S3 Glacier.
- B. Configure the web server to upload the original images to Amazon S3.
- C. Configure the application to upload images directly from each user's browser to Amazon S3 through the use of a presigned URL.
- D. Configure S3 Event Notifications to invoke an AWS Lambda function when an image is uploaded.
- E. Use the function to resize the image.
- F. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that invokes an AWS Lambda function on a schedule to resize uploaded images.

Answer: CD

Explanation:

Amazon S3 is a highly scalable and durable object storage service that can store and retrieve any amount of data from anywhere on the web¹. Users can configure the application to upload images directly from each user's browser to Amazon S3 through the use of a presigned URL. A presigned URL is a URL that gives access to an object in an S3 bucket for a limited time and with a specific action, such as uploading an object². Users can generate a presigned URL programmatically using the AWS SDKs or AWS CLI. By using a presigned URL, users can reduce coupling within the application and improve website performance, as they do not need to send the images to the web server first. AWS Lambda is a serverless compute service that runs code in response to events and automatically manages the underlying compute resources³. Users can configure S3 Event Notifications to invoke an AWS Lambda function when an image is uploaded. S3 Event Notifications is a feature that allows users to receive notifications when certain events happen in an S3 bucket, such as object creation or deletion. Users can configure S3 Event Notifications to invoke a Lambda function that resizes the image and stores it back in the same or a different S3 bucket. This way, users can offload the image resizing task from the web server to Lambda.

NEW QUESTION 118

- (Topic 1)

A bicycle sharing company is developing a multi-tier architecture to track the location of its bicycles during peak operating hours. The company wants to use these data points in its existing analytics platform. A solutions architect must determine the most viable multi-tier option to support this architecture. The data points must be accessible from the REST API.

Which action meets these requirements for storing and retrieving location data?

- A. Use Amazon Athena with Amazon S3.
- B. Use Amazon API Gateway with AWS Lambda.
- C. Use Amazon QuickSight with Amazon Redshift.
- D. Use Amazon API Gateway with Amazon Kinesis Data Analytics.

Answer: D

Explanation:

<https://aws.amazon.com/solutions/implementations/aws-streaming-data-solution-for-amazon-kinesis/>

NEW QUESTION 119

- (Topic 1)

A company recently signed a contract with an AWS Managed Service Provider (MSP) Partner for help with an application migration initiative. A solutions architect needs to share an Amazon Machine Image (AMI) from an existing AWS account with the MSP Partner's AWS account. The AMI is backed by Amazon Elastic Block Store (Amazon EBS) and uses a customer managed customer master key (CMK) to encrypt EBS volume snapshots.

What is the MOST secure way for the solutions architect to share the AMI with the MSP Partner's AWS account?

- A. Make the encrypted AMI and snapshots publicly available.
- B. Modify the CMK's key policy to allow the MSP Partner's AWS account to use the key.
- C. Modify the launchPermission property of the AMI.
- D. Share the AMI with the MSP Partner's AWS account only.
- E. Modify the CMK's key policy to allow the MSP Partner's AWS account to use the key.
- F. Modify the launchPermission property of the AMI. Share the AMI with the MSP Partner's AWS account only.
- G. Modify the CMK's key policy to trust a new CMK that is owned by the MSP Partner for encryption.
- H. Export the AMI from the source account to an Amazon S3 bucket in the MSP Partner's AWS account.
- I. Encrypt the S3 bucket with a CMK that is owned by the MSP Partner. Copy and launch the AMI in the MSP Partner's AWS account.

Answer: B

Explanation:

Share the existing KMS key with the MSP external account because it has already been used to encrypt the AMI snapshot.

<https://docs.aws.amazon.com/kms/latest/developerguide/key-policy-modifying-external-accounts.html>

NEW QUESTION 120

- (Topic 1)

A company runs a photo processing application that needs to frequently upload and download pictures from Amazon S3 buckets that are located in the same AWS Region. A solutions architect has noticed an increased cost in data transfer fees and needs to implement a solution to reduce these costs.

How can the solutions architect meet this requirement?

- A. Deploy Amazon API Gateway into a public subnet and adjust the route table to route S3 calls through it.
- B. Deploy a NAT gateway into a public subnet and attach an endpoint policy that allows access to the S3 buckets.
- C. Deploy the application into a public subnet and allow it to route through an internet gateway to access the S3 buckets.
- D. Deploy an S3 VPC gateway endpoint into the VPC and attach an endpoint policy that allows access to the S3 buckets.

Answer: D

Explanation:

The correct answer is Option D. Deploy an S3 VPC gateway endpoint into the VPC and attach an endpoint policy that allows access to the S3 buckets. By deploying an S3 VPC gateway endpoint, the application can access the S3 buckets over a private network connection within the VPC, eliminating the need for data transfer over the internet. This can help reduce data transfer fees as well as improve the performance of the application. The endpoint policy can be used to specify which S3 buckets the application has access to.

NEW QUESTION 124

- (Topic 1)

A solutions architect is developing a multiple-subnet VPC architecture. The solution will consist of six subnets in two Availability Zones. The subnets are defined as public, private and dedicated for databases. Only the Amazon EC2 instances running in the private subnets should be able to access a database. Which solution meets these requirements?

- A. Create a new route table that excludes the route to the public subnets' CIDR block
- B. Associate the route table to the database subnets.
- C. Create a security group that denies ingress from the security group used by instances in the public subnet
- D. Attach the security group to an Amazon RDS DB instance.
- E. Create a security group that allows ingress from the security group used by instances in the private subnet
- F. Attach the security group to an Amazon RDS DB instance.
- G. Create a new peering connection between the public subnets and the private subnet
- H. Create a different peering connection between the private subnets and the database subnets.

Answer: C

Explanation:

Security groups are stateful. All inbound traffic is blocked by default. If you create an inbound rule allowing traffic in, that traffic is automatically allowed back out again. You cannot block specific IP address using Security groups (instead use Network Access Control Lists).

"You can specify allow rules, but not deny rules." "When you first create a security group, it has no inbound rules. Therefore, no inbound traffic originating from another host to your instance is allowed until you add inbound rules to the security group." Source:

https://docs.aws.amazon.com/vpc/latest/userguide/VPC_SecurityGroups.html#VPCSecurityGroups

NEW QUESTION 125

- (Topic 1)

A company is using a SQL database to store movie data that is publicly accessible. The database runs on an Amazon RDS Single-AZ DB instance. A script runs queries at random intervals each day to record the number of new movies that have been added to the database. The script must report a final total during business hours. The company's development team notices that the database performance is inadequate for development tasks when the script is running. A solutions architect must recommend a solution to resolve this issue. Which solution will meet this requirement with the LEAST operational overhead?

- A. Modify the DB instance to be a Multi-AZ deployment
- B. Create a read replica of the database. Configure the script to query only the read replica
- C. Instruct the development team to manually export the entries in the database at the end of each day
- D. Use Amazon ElastiCache to cache the common queries that the script runs against the database

Answer: B

NEW QUESTION 130

- (Topic 1)

An application development team is designing a microservice that will convert large images to smaller, compressed images. When a user uploads an image through the web interface, the microservice should store the image in an Amazon S3 bucket, process and compress the image with an AWS Lambda function, and store the image in its compressed form in a different S3 bucket.

A solutions architect needs to design a solution that uses durable, stateless components to process the images automatically.

Which combination of actions will meet these requirements? (Choose two.)

- A. Create an Amazon Simple Queue Service (Amazon SQS) queue. Configure the S3 bucket to send a notification to the SQS queue when an image is uploaded to the S3 bucket.
- B. Configure the Lambda function to use the Amazon Simple Queue Service (Amazon SQS) queue as the invocation source. When the SQS message is successfully processed, delete the message in the queue.
- C. Configure the Lambda function to monitor the S3 bucket for new uploads. When an uploaded image is detected, write the file name to a text file in memory and use the text file to keep track of the images that were processed.
- D. Launch an Amazon EC2 instance to monitor an Amazon Simple Queue Service (Amazon SQS) queue. When items are added to the queue, log the file name in a text file on the EC2 instance and invoke the Lambda function.
- E. Configure an Amazon EventBridge (Amazon CloudWatch Events) event to monitor the S3 bucket. When an image is uploaded, send an alert to an Amazon Simple Notification Service (Amazon SNS) topic with the application owner's email address for further processing.
- F. Send an alert to an Amazon Simple Notification Service (Amazon SNS) topic with the application owner's email address for further processing.

Answer: AB

Explanation:

? Creating an Amazon Simple Queue Service (SQS) queue and configuring the S3 bucket to send a notification to the SQS queue when an image is uploaded to the S3 bucket will ensure that the Lambda function is triggered in a stateless and durable manner.

? Configuring the Lambda function to use the SQS queue as the invocation source, and deleting the message in the queue after it is successfully processed will ensure that the Lambda function processes the image in a stateless and durable manner.

Amazon SQS is a fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications. SQS eliminates the complexity and overhead associated with managing and operating message-oriented middleware, and empowers developers to focus on differentiating work. When new images are uploaded to the S3 bucket, SQS will trigger the Lambda function to process the image and compress it. Once the image is processed, the SQS message is deleted, ensuring that the Lambda function is stateless and durable.

NEW QUESTION 133

- (Topic 1)

A company is migrating applications to AWS. The applications are deployed in different accounts. The company manages the accounts centrally by using AWS Organizations. The company's security team needs a single sign-on (SSO) solution across all the company's accounts. The company must continue managing the users and groups in its on-premises self-managed Microsoft Active Directory.

Which solution will meet these requirements?

- A. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console
- B. Create a one-way forest trust or a one-way domain trust to connect the company's self-managed Microsoft Active Directory with AWS SSO by using AWS Directory Service for Microsoft Active Directory.
- C. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console

- D. Create a two- way forest trust to connect the company's self-managed Microsoft Active Directory with AWS SSO by using AWS Directory Service for Microsoft Active Directory.
- E. Use AWS Directory Servic
- F. Create a two-way trust relationship with the company's self- managed Microsoft Active Directory.
- G. Deploy an identity provider (IdP) on premise
- H. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console.

Answer: A

Explanation:

To provide single sign-on (SSO) across all the company's accounts while continuing to manage users and groups in its on-premises self-managed Microsoft Active Directory, the solution is to enable AWS Single Sign-On (SSO) from the AWS SSO console and create a one-way forest trust or a one-way domain trust to connect the company's self- managed Microsoft Active Directory with AWS SSO by using AWS Directory Service for Microsoft Active Directory. This solution is described in the AWS documentation

NEW QUESTION 138

- (Topic 1)

A company has an AWS Glue extract. transform, and load (ETL) job that runs every day at the same time. The job processes XML data that is in an Amazon S3 bucket.

New data is added to the S3 bucket every day. A solutions architect notices that AWS Glue is processing all the data during each run.

What should the solutions architect do to prevent AWS Glue from reprocessing old data?

- A. Edit the job to use job bookmarks.
- B. Edit the job to delete data after the data is processed
- C. Edit the job by setting the NumberOfWorkers field to 1.
- D. Use a FindMatches machine learning (ML) transform.

Answer: C

Explanation:

This is the purpose of bookmarks: "AWS Glue tracks data that has already been processed during a previous run of an ETL job by persisting state information from the job run. This persisted state information is called a job bookmark. Job bookmarks help AWS Glue maintain state information and prevent the reprocessing of old data." <https://docs.aws.amazon.com/glue/latest/dg/monitor-continuations.html>

NEW QUESTION 141

- (Topic 1)

A company uses Amazon S3 to store its confidential audit documents. The S3 bucket uses bucket policies to restrict access to audit team IAM user credentials according to the principle of least privilege. Company managers are worried about accidental deletion of documents in the S3 bucket and want a more secure solution.

What should a solutions architect do to secure the audit documents?

- A. Enable the versioning and MFA Delete features on the S3 bucket.
- B. Enable multi-factor authentication (MFA) on the IAM user credentials for each auditteam IAM user account.
- C. Add an S3 Lifecycle policy to the audit team's IAM user accounts to deny the s3:DeleteObject action during audit dates.
- D. Use AWS Key Management Service (AWS KMS) to encrypt the S3 bucket and restrict audit team IAM user accounts from accessing the KMS key.

Answer: A

NEW QUESTION 143

- (Topic 1)

A company is preparing to store confidential data in Amazon S3 For compliance reasons the data must be encrypted at rest Encryption key usage must be logged for auditing purposes. Keys must be rotated every year.

Which solution meets these requirements and «the MOST operationally efferent?

- A. Server-side encryption with customer-provided keys (SSE-C)
- B. Server-side encryption with Amazon S3 managed keys (SSE-S3)
- C. Server-side encryption with AWS KMS (SSE-KMS) customer master keys (CMKs) with manual rotation
- D. Server-side encryption with AWS KMS (SSE-KMS) customer master keys (CMKs) with automate rotation

Answer: D

Explanation:

<https://docs.aws.amazon.com/kms/latest/developerguide/rotate-keys.html> When you enable automatic key rotation for a customer managed key, AWS KMS generates new cryptographic material for the KMS key every year. AWS KMS also saves the KMS key's older cryptographic material in perpetuity so it can be used to decrypt data that the KMS key encrypted.

Key rotation in AWS KMS is a cryptographic best practice that is designed to be transparent and easy to use. AWS KMS supports optional automatic key rotation only for customer managed CMKs. Enable and disable key rotation. Automatic key rotation is disabled by default on customer managed CMKs. When you enable (or re-enable) key rotation, AWS KMS automatically rotates the CMK 365 days after the enable date and every 365 days thereafter.

NEW QUESTION 145

- (Topic 1)

A solutions architect is designing a two-tier web application The application consists of a public-facing web tier hosted on Amazon EC2 in public subnets The database tier consists of Microsoft SQL Server running on Amazon EC2 in a private subnet Security is a high priority for the company

How should security groups be configured in this situation? (Select TWO)

- A. Configure the security group for the web tier to allow inbound traffic on port 443 from 0.0.0.0/0.
- B. Configure the security group for the web tier to allow outbound traffic on port 443 from 0.0.0.0/0.
- C. Configure the security group for the database tier to allow inbound traffic on port 1433 from the security group for the web tier.
- D. Configure the security group for the database tier to allow outbound traffic on ports 443 and 1433 to the security group for the web tier.

E. Configure the security group for the database tier to allow inbound traffic on ports 443 and 1433 from the security group for the web tier.

Answer: AC

Explanation:

"Security groups create an outbound rule for every inbound rule." Not completely right. Statefull does NOT mean that if you create an inbound (or outbound) rule, it will create an outbound (or inbound) rule. What it does mean is: suppose you create an inbound rule on port 443 for the X ip. When a request enters on port 443 from X ip, it will allow traffic out for that request in the port 443. However, if you look at the outbound rules, there will not be any outbound rule on port 443 unless explicitly create it. In ACLs, which are stateless, you would have to create an inbound rule to allow incoming requests and an outbound rule to allow your application responds to those incoming requests.

https://docs.aws.amazon.com/vpc/latest/userguide/VPC_SecurityGroups.html#SecurityGroupRules

NEW QUESTION 147

- (Topic 1)

A company has an automobile sales website that stores its listings in a database on Amazon RDS. When an automobile is sold, the listing needs to be removed from the website and the data must be sent to multiple target systems.

Which design should a solutions architect recommend?

- A. Create an AWS Lambda function triggered when the database on Amazon RDS is updated to send the information to an Amazon Simple Queue Service (Amazon SQS) queue for the targets to consume
- B. Create an AWS Lambda function triggered when the database on Amazon RDS is updated to send the information to an Amazon Simple Queue Service (Amazon SQS) FIFO queue for the targets to consume
- C. Subscribe to an RDS event notification and send an Amazon Simple Queue Service (Amazon SQS) queue fanned out to multiple Amazon Simple Notification Service (Amazon SNS) topics. Use AWS Lambda functions to update the targets
- D. Subscribe to an RDS event notification and send an Amazon Simple Notification Service (Amazon SNS) topic fanned out to multiple Amazon Simple Queue Service (Amazon SQS) queues. Use AWS Lambda functions to update the targets

Answer: D

Explanation:

<https://docs.aws.amazon.com/lambda/latest/dg/services-rds.html> <https://docs.aws.amazon.com/lambda/latest/dg/with-sns.html>

NEW QUESTION 151

- (Topic 1)

A company has a production web application in which users upload documents through a web interface or a mobile app. According to a new regulatory requirement, new documents cannot be modified or deleted after they are stored.

What should a solutions architect do to meet this requirement?

- A. Store the uploaded documents in an Amazon S3 bucket with S3 Versioning and S3 Object Lock enabled
- B. Store the uploaded documents in an Amazon S3 bucket
- C. Configure an S3 Lifecycle policy to archive the documents periodically.
- D. Store the uploaded documents in an Amazon S3 bucket with S3 Versioning enabled. Configure an ACL to restrict all access to read-only.
- E. Store the uploaded documents on an Amazon Elastic File System (Amazon EFS) volume
- F. Access the data by mounting the volume in read-only mode.

Answer: A

Explanation:

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/object-lock-overview.html>

NEW QUESTION 152

- (Topic 1)

A company has an application that runs on Amazon EC2 instances and uses an Amazon

Aurora database. The EC2 instances connect to the database by using user names and passwords that are stored locally in a file. The company wants to minimize the operational overhead of credential management.

What should a solutions architect do to accomplish this goal?

- A. Use AWS Secrets Manager
- B. Turn on automatic rotation.
- C. Use AWS Systems Manager Parameter Store
- D. Turn on automatic rotation.
- E. Create an Amazon S3 bucket to store objects that are encrypted with an AWS Key
- F. Management Service (AWS KMS) encryption key
- G. Migrate the credential file to the S3 bucket
- H. Point the application to the S3 bucket.
- I. Create an encrypted Amazon Elastic Block Store (Amazon EBS) volume (on each EC2 instance)
- J. Attach the new EBS volume to each EC2 instance
- K. Migrate the credential file to the new EBS volume
- L. Point the application to the new EBS volume.

Answer: A

Explanation:

<https://aws.amazon.com/cn/blogs/security/how-to-connect-to-aws-secrets-manager-service-within-a-virtual-private-cloud/>
<https://aws.amazon.com/blogs/security/rotate-amazon-rds-database-credentials-automatically-with-aws-secrets-manager/>

NEW QUESTION 154

- (Topic 1)

A company is designing an application. The application uses an AWS Lambda function to receive information through Amazon API Gateway and to store the

information in an Amazon Aurora PostgreSQL database.

During the proof-of-concept stage, the company has to increase the Lambda quotas significantly to handle the high volumes of data that the company needs to load into the database. A solutions architect must recommend a new design to improve scalability and minimize the configuration effort.

Which solution will meet these requirements?

- A. Refactor the Lambda function code to Apache Tomcat code that runs on Amazon EC2 instance
- B. Connect the database by using native Java Database Connectivity (JDBC) drivers.
- C. Change the platform from Aurora to Amazon DynamoD
- D. Provision a DynamoDB Accelerator (DAX) cluste
- E. Use the DAX client SDK to point the existing DynamoDB API calls at the DAX cluster.
- F. Set up two Lambda function
- G. Configure one function to receive the informatio
- H. Configure the other function to load the information into the databas
- I. Integrate the Lambda functions by using Amazon Simple Notification Service (Amazon SNS).
- J. Set up two Lambda function
- K. Configure one function to receive the informatio
- L. Configure the other function to load the information into the databas
- M. Integrate the Lambda functions by using an Amazon Simple Queue Service (Amazon SQS) queue.

Answer: B

Explanation:

bottlenecks can be avoided with queues (SQS).

NEW QUESTION 155

- (Topic 1)

A company runs its Infrastructure on AWS and has a registered base of 700.000 users for res document management application The company intends to create a product that converts large pdf files to jpg Imago files. The .pdf files average 5 MB in size. The company needs to store the original files and the converted files. A solutions architect must design a scalable solution to accommodate demand that will grow rapidly over lime.

Which solution meets these requirements MOST cost-effectively?

- A. Save the pdf files to Amazon S3 Configure an S3 PUT event to invoke an AWS Lambda function to convert the files to jpg format and store them back in Amazon S3
- B. Save the pdf files to Amazon DynamoD
- C. Use the DynamoDB Streams feature to invoke an AWS Lambda function to convert the files to jpg format and store them hack in DynamoDB
- D. Upload the pdf files to an AWS Elastic Beanstalk application that includes Amazon EC2 instance
- E. Amazon Elastic Block Store (Amazon EBS) storage and an Auto Scaling grou
- F. Use a program In the EC2 instances to convert the files to jpg format Save the .pdf files and the .jpg files In the EBS store.
- G. Upload the .pdf files to an AWS Elastic Beanstalk application that includes Amazon EC2 instances, Amazon Elastic File System (Amazon EPS) storage, and an Auto Scaling grou
- H. Use a program in the EC2 instances to convert the file to jpg format Save the pdf files and the jpg files in the EBS store.

Answer: A

Explanation:

Elastic BeanStalk is expensive, and DocumentDB has a 400KB max to upload files. So Lambda and S3 should be the one.

NEW QUESTION 159

- (Topic 1)

A company is running a business-critical web application on Amazon EC2 instances behind an Application Load Balancer. The EC2 instances are in an Auto Scaling group. The application uses an Amazon Aurora PostgreSQL database that is deployed in a single Availability Zone. The company wants the application to be highly available with minimum downtime and minimum loss of data.

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

- A. Place the EC2 instances in different AWS Region
- B. Use Amazon Route 53 health checks to redirect traffi
- C. Use Aurora PostgreSQL Cross-Region Replication.
- D. Configure the Auto Scaling group to use multiple Availability Zone
- E. Configure the database as Multi-A
- F. Configure an Amazon RDS Proxy instance for the database.
- G. Configure the Auto Scaling group to use one Availability Zon
- H. Generate hourly snapshots of the databas
- I. Recover the database from the snapshots in the event of a failure.
- J. Configure the Auto Scaling group to use multiple AWS Region
- K. Write the data from the application to Amazon S3. Use S3 Event Notifications to launch an AWS Lambda function to write the data to the database.

Answer: B

Explanation:

To achieve high availability with minimum downtime and minimum loss of data, the Auto Scaling group should be configured to use multiple Availability Zones to ensure that there is no single point of failure. The database should be configured as Multi- AZ to enable automatic failover in case of an outage in the primary Availability Zone. Additionally, an Amazon RDS Proxy instance can be used to improve the scalability and availability of the database by reducing connection failures and improving failover times.

NEW QUESTION 162

- (Topic 2)

A company hosts a two-tier application on Amazon EC2 instances and Amazon RDS. The application's demand varies based on the time of day. The load is minimal after work hours and on weekends. The EC2 instances run in an EC2 Auto Scaling group that is configured with a minimum of two instances and a maximum of five instances. The application must be available at all times, but the company is concerned about overall cost.

Which solution meets the availability requirement MOST cost-effectively?

- A. Use all EC2 Spot Instance
- B. Stop the RDS database when it is not in use.
- C. Purchase EC2 Instance Savings Plans to cover five EC2 instance
- D. Purchase an RDS Reserved DB Instance
- E. Purchase two EC2 Reserved Instances Use up to three additional EC2 Spot Instances as needed
- F. Stop the RDS database when it is not in use.
- G. Purchase EC2 Instance Savings Plans to cover two EC2 instance
- H. Use up to three additional EC2 On-Demand Instances as needed
- I. Purchase an RDS Reserved DB Instance.

Answer: C

Explanation:

This solution meets the requirements of a two-tier application that has a variable demand based on the time of day and must be available at all times, while minimizing the overall cost. EC2 Reserved Instances can provide significant savings compared to On-Demand Instances for the baseline level of usage, and they can guarantee capacity reservation when needed. EC2 Spot Instances can provide up to 90% savings compared to On-Demand Instances for any additional capacity that the application needs during peak hours. Spot Instances are suitable for stateless applications that can tolerate interruptions and can be replaced by other instances. Stopping the RDS database when it is not in use can reduce the cost of running the database tier.

Option A is incorrect because using all EC2 Spot Instances can affect the availability of the application if there are not enough spare capacity or if the Spot price exceeds the maximum price. Stopping the RDS database when it is not in use can reduce the cost of running the database tier, but it can also affect the availability of the application. Option B is incorrect because purchasing EC2 Instance Savings Plans to cover five EC2 instances can lock in a fixed amount of compute usage per hour, which may not match the actual usage pattern of the application. Purchasing an RDS Reserved DB Instance can provide savings for the database tier, but it does not allow stopping the database when it is not in use. Option D is incorrect because purchasing EC2 Instance Savings Plans to cover two EC2 instances can lock in a fixed amount of compute usage per hour, which may not match the actual usage pattern of the application. Using up to three additional EC2 On-Demand Instances as needed can incur higher costs than using Spot Instances.

References:

? <https://aws.amazon.com/ec2/pricing/reserved-instances/>

? <https://aws.amazon.com/ec2/spot/>

? https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_StopInstance.html

NEW QUESTION 164

- (Topic 2)

A company sells ringtones created from clips of popular songs. The files containing the ringtones are stored in Amazon S3 Standard and are at least 128 KB in size. The company has millions of files, but downloads are infrequent for ringtones older than 90 days. The company needs to save money on storage while keeping the most accessed files readily available for its users.

Which action should the company take to meet these requirements MOST cost-effectively?

- A. Configure S3 Standard-Infrequent Access (S3 Standard-IA) storage for the initial storage tier of the objects.
- B. Move the files to S3 Intelligent-Tiering and configure it to move objects to a less expensive storage tier after 90 days.
- C. Configure S3 inventory to manage objects and move them to S3 Standard-Infrequent Access (S3 Standard-1A) after 90 days.
- D. Implement an S3 Lifecycle policy that moves the objects from S3 Standard to S3 Standard-Infrequent Access (S3 Standard-1A) after 90 days.

Answer: D

Explanation:

This solution meets the requirements of saving money on storage while keeping the most accessed files readily available for the users. S3 Lifecycle policy can automatically move objects from one storage class to another based on predefined rules. S3 Standard-IA is a lower-cost storage class for data that is accessed less frequently, but requires rapid access when needed. It is suitable for ringtones older than 90 days that are downloaded infrequently.

Option A is incorrect because configuring S3 Standard-IA for the initial storage tier of the objects can incur higher costs for frequent access and retrieval fees.

Option B is incorrect

because moving the files to S3 Intelligent-Tiering can incur additional monitoring and automation fees that may not be necessary for ringtones older than 90 days.

Option C is incorrect because using S3 inventory to manage objects and move them to S3 Standard-IA can be complex and time-consuming, and it does not provide automatic cost savings. References:

? <https://aws.amazon.com/s3/storage-classes/>

? <https://aws.amazon.com/s3/cloud-storage-cost-optimization-ebook/>

NEW QUESTION 168

- (Topic 2)

A company produces batch data that comes from different databases. The company also produces live stream data from network sensors and application APIs. The company needs to consolidate all the data into one place for business analytics. The company needs to process the incoming data and then stage the data in different Amazon S3 buckets. Teams will later run one-time queries and import the data into a business intelligence tool to show key performance indicators (KPIs).

Which combination of steps will meet these requirements with the LEAST operational overhead? (Choose two.)

- A. Use Amazon Athena for one-time queries Use Amazon QuickSight to create dashboards for KPIs
- B. Use Amazon Kinesis Data Analytics for one-time queries Use Amazon QuickSight to create dashboards for KPIs
- C. Create custom AWS Lambda functions to move the individual records from the databases to an Amazon Redshift cluster
- D. Use an AWS Glue extract transform, and load (ETL) job to convert the data into JSON format Load the data into multiple Amazon OpenSearch Service (Amazon Elasticsearch Service) clusters
- E. Use blueprints in AWS Lake Formation to identify the data that can be ingested into a data lake Use AWS Glue to crawl the source extract the data and load the data into Amazon S3 in Apache Parquet format

Answer: AE

Explanation:

Amazon Athena is the best choice for running one-time queries on streaming data. Although Amazon Kinesis Data Analytics provides an easy and familiar standard SQL language to analyze streaming data in real-time, it is designed for continuous queries rather than one-time queries[1]. On the other hand, Amazon Athena is a serverless interactive query service that allows querying data in Amazon S3 using SQL. It is optimized for ad-hoc querying and is ideal for running one-time queries on streaming data[2]. AWS Lake Formation uses as a central place to have all your data for analytics purposes (E). Athena integrates perfectly with S3 and can make queries (A).

NEW QUESTION 171

- (Topic 2)

A solutions architect needs to help a company optimize the cost of running an application on AWS. The application will use Amazon EC2 instances, AWS Fargate, and AWS Lambda for compute within the architecture.

The EC2 instances will run the data ingestion layer of the application. EC2 usage will be sporadic and unpredictable. Workloads that run on EC2 instances can be interrupted at any time. The application front end will run on Fargate, and Lambda will serve the API layer. The front-end utilization and API layer utilization will be predictable over the course of the next year.

Which combination of purchasing options will provide the MOST cost-effective solution for hosting this application? (Choose two.)

- A. Use Spot Instances for the data ingestion layer
- B. Use On-Demand Instances for the data ingestion layer
- C. Purchase a 1-year Compute Savings Plan for the front end and API layer.
- D. Purchase 1-year All Upfront Reserved instances for the data ingestion layer.
- E. Purchase a 1-year EC2 instance Savings Plan for the front end and API layer.

Answer: AC

Explanation:

EC2 instance Savings Plan saves 72% while Compute Savings Plans saves 66%. But according to link, it says "Compute Savings Plans provide the most flexibility and help to reduce your costs by up to 66%. These plans automatically apply to EC2 instance usage regardless of instance family, size, AZ, region, OS or tenancy, and also apply to Fargate and Lambda usage." EC2 instance Savings Plans are not applied to Fargate or Lambda

NEW QUESTION 175

- (Topic 2)

A company wants to use the AWS Cloud to make an existing application highly available and resilient. The current version of the application resides in the company's data center. The application recently experienced data loss after a database server crashed because of an unexpected power outage.

The company needs a solution that avoids any single points of failure. The solution must give the application the ability to scale to meet user demand.

Which solution will meet these requirements?

- A. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zone
- B. Use an Amazon RDS DB instance in a Multi-AZ configuration.
- C. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group in a single Availability Zon
- D. Deploy the database on an EC2 instanc
- E. Enable EC2 Auto Recovery.
- F. Deploy the application servers by using Amazon EC2 instances in an Auto Scalinggroup across multiple Availability Zone
- G. Use an Amazon RDS DB instance with a read replica in a single Availability Zon
- H. Promote the read replica to replace the primary DB instance if the primary DB instance fails.
- I. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones Deploy the primary and secondary database servers on EC2 instances across multiple Availability Zones Use Amazon Elastic Block Store (Amazon EBS) Multi-Attach to create shared storage between the instances.

Answer: A

Explanation:

Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones. Use an Amazon RDS DB instance in a Multi-AZ configuration. To make an existing application highly available and resilient while avoiding any single points of failure and giving the application the ability to scale to meet user demand, the best solution would be to deploy the application servers using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones and use an Amazon RDS DB instance in a Multi-AZ configuration. By using an Amazon RDS DB instance in a Multi-AZ configuration, the database is automatically replicated across multiple Availability Zones, ensuring that the database is highly available and can withstand the failure of a single Availability Zone. This provides fault tolerance and avoids any single points of failure.

NEW QUESTION 177

- (Topic 2)

An application runs on Amazon EC2 instances across multiple Availability Zones The instances run in an Amazon EC2 Auto Scaling group behind an Application Load Balancer The application performs best when the CPU utilization of the EC2 instances is at or near 40%.

What should a solutions architect do to maintain the desired performance across all instances in the group?

- A. Use a simple scaling policy to dynamically scale the Auto Scaling group
- B. Use a target tracking policy to dynamically scale the Auto Scaling group
- C. Use an AWS Lambda function to update the desired Auto Scaling group capacity.
- D. Use scheduled scaling actions to scale up and scale down the Auto Scaling group

Answer: B

Explanation:

<https://docs.aws.amazon.com/autoscaling/application/userguide/application-auto-scaling-target-tracking.html>

NEW QUESTION 180

- (Topic 2)

A company uses a popular content management system (CMS) for its corporate website. However, the required patching and maintenance are burdensome. The company is redesigning its website and wants anew solution. The website will be updated four times a year and does not need to have any dynamic content available. The solution must provide high scalability and enhanced security.

Which combination of changes will meet these requirements with the LEAST operational overhead? (Choose two.)

- A. Deploy an AWS WAF web ACL in front of the website to provide HTTPS functionality
- B. Create and deploy an AWS Lambda function to manage and serve the website content
- C. Create the new website and an Amazon S3 bucket Deploy the website on the S3 bucket with static website hosting enabled
- D. Create the new websit
- E. Deploy the website by using an Auto Scaling group of Amazon EC2 instances behind an Application Load Balancer.

Answer: AD

Explanation:

A -> We can configure CloudFront to require HTTPS from clients (enhanced security)

<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/using-https-viewers-to-cloudfront.html> D -> storing static website on S3 provides scalability and less operational overhead, then configuration of Application LB and EC2 instances (hence E is out)

NEW QUESTION 181

- (Topic 2)

A company is migrating its on-premises PostgreSQL database to Amazon Aurora PostgreSQL. The on-premises database must remain online and accessible during the migration. The Aurora database must remain synchronized with the on-premises database.

Which combination of actions must a solutions architect take to meet these requirements? (Choose two.)

- A. Create an ongoing replication task.
- B. Create a database backup of the on-premises database
- C. Create an AWS Database Migration Service (AWS DMS) replication server
- D. Convert the database schema by using the AWS Schema Conversion Tool (AWS SCT).
- E. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to monitor the database synchronization

Answer: AC

Explanation:

AWS Database Migration Service supports homogeneous migrations such as Oracle to Oracle, as well as heterogeneous migrations between different database platforms, such as Oracle or Microsoft SQL Server to Amazon Aurora. With AWS Database Migration Service, you can also continuously replicate data with low latency from any supported source to any supported target. For example, you can replicate from multiple sources to Amazon Simple Storage Service (Amazon S3) to build a highly available and scalable data lake solution. You can also consolidate databases into a petabyte-scale data warehouse by streaming data to Amazon Redshift. Learn more about the supported source and target databases. <https://aws.amazon.com/dms/>

NEW QUESTION 186

- (Topic 2)

A security team wants to limit access to specific services or actions in all of the team's AWS accounts. All accounts belong to a large organization in AWS Organizations. The solution must be scalable and there must be a single point where permissions can be maintained.

What should a solutions architect do to accomplish this?

- A. Create an ACL to provide access to the services or actions.
- B. Create a security group to allow accounts and attach it to user groups.
- C. Create cross-account roles in each account to deny access to the services or actions.
- D. Create a service control policy in the root organizational unit to deny access to the services or actions.

Answer: D

Explanation:

Service control policies (SCPs) are one type of policy that you can use to manage your organization. SCPs offer central control over the maximum available permissions for all accounts in your organization, allowing you to ensure your accounts stay within your organization's access control guidelines. See https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scp.html.

NEW QUESTION 191

- (Topic 2)

A company is building a web-based application running on Amazon EC2 instances in multiple Availability Zones. The web application will provide access to a repository of text documents totaling about 900 TB in size. The company anticipates that the web application will experience periods of high demand. A solutions architect must ensure that the storage component for the text documents can scale to meet the demand of the application at all times. The company is concerned about the overall cost of the solution.

Which storage solution meets these requirements MOST cost-effectively?

- A. Amazon Elastic Block Store (Amazon EBS)
- B. Amazon Elastic File System (Amazon EFS)
- C. Amazon Elasticsearch Service (Amazon ES)
- D. Amazon S3

Answer: D

Explanation:

Amazon S3 is cheapest and can be accessed from anywhere.

NEW QUESTION 194

- (Topic 2)

A company runs an application using Amazon ECS. The application creates esi/ed versions of an original image and then makes Amazon S3 API calls to store the resized images in Amazon S3.

How can a solutions architect ensure that the application has permission to access Amazon S3?

- A. Update the S3 role in AWS IAM to allow read/write access from Amazon ECS, and then relaunch the container.
- B. Create an IAM role with S3 permissions, and then specify that role as the taskRoleArn in the task definition.
- C. Create a security group that allows access from Amazon ECS to Amazon S3, and update the launch configuration used by the ECS cluster.
- D. Create an IAM user with S3 permissions, and then relaunch the Amazon EC2 instances for the ECS cluster while logged in as this account.

Answer: B

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-ecs-taskdefinition.html>

NEW QUESTION 197

- (Topic 2)

A company wants to measure the effectiveness of its recent marketing campaigns. The company performs batch processing on csv files of sales data and stores the results in an Amazon S3 bucket once every hour. The S3 bucket contains petabytes of objects. The company runs one-time queries in Amazon Athena to determine which products are most popular on a particular date for a particular region. Queries sometimes fail or take longer than expected to finish.

Which actions should a solutions architect take to improve the query performance and reliability? (Select TWO.)

- A. Reduce the S3 object sizes to less than 126 MB
- B. Partition the data by date and region in Amazon S3
- C. Store the files as large, single objects in Amazon S3.
- D. Use Amazon Kinesis Data Analytics to run the Queries as part of the batch processing operation
- E. Use an AWS Glue extract, transform, and load (ETL) process to convert the csv files into Apache Parquet format.

Answer: BE

Explanation:

<https://aws.amazon.com/blogs/big-data/top-10-performance-tuning-tips-for-amazon-athena/>

This solution meets the requirements of measuring the effectiveness of marketing campaigns by performing batch processing on csv files of sales data and storing the results in an Amazon S3 bucket once every hour. An AWS Glue ETL process can use services such as AWS Glue or AWS Data Pipeline to extract data from S3, transform it into a more efficient format such as Apache Parquet, and load it back into S3. Apache Parquet is a columnar storage format that can improve the query performance and reliability of Athena by reducing the amount of data scanned, improving compression ratio, and enabling predicate pushdown.

NEW QUESTION 199

- (Topic 2)

A company has an ecommerce checkout workflow that writes an order to a database and calls a service to process the payment. Users are experiencing timeouts during the checkout process. When users resubmit the checkout form, multiple unique orders are created for the same desired transaction.

How should a solutions architect refactor this workflow to prevent the creation of multiple orders?

- A. Configure the web application to send an order message to Amazon Kinesis Data Firehose
- B. Set the payment service to retrieve the message from Kinesis Data Firehose and process the order.
- C. Create a rule in AWS CloudTrail to invoke an AWS Lambda function based on the logged application path request. Use Lambda to query the database, call the payment service, and pass in the order information.
- D. Store the order in the database
- E. Send a message that includes the order number to Amazon Simple Notification Service (Amazon SNS). Set the payment service to poll Amazon SNS
- F. retrieve the message, and process the order.
- G. Store the order in the database
- H. Send a message that includes the order number to an Amazon Simple Queue Service (Amazon SQS) FIFO queue
- I. Set the payment service to retrieve the message and process the order
- J. Delete the message from the queue.

Answer: D

Explanation:

This approach ensures that the order creation and payment processing steps are separate and atomic. By sending the order information to an SQS FIFO queue, the payment service can process the order one at a time and in the order they were received. If the payment service is unable to process an order, it can be retried later, preventing the creation of multiple orders. The deletion of the message from the queue after it is processed will prevent the same message from being processed multiple times.

NEW QUESTION 204

- (Topic 2)

A new employee has joined a company as a deployment engineer. The deployment engineer will be using AWS CloudFormation templates to create multiple AWS resources. A solutions architect wants the deployment engineer to perform job activities while following the principle of least privilege.

Which steps should the solutions architect do in conjunction to reach this goal? (Select two.)

- A. Have the deployment engineer use AWS account root user credentials for performing AWS CloudFormation stack operations.
- B. Create a new IAM user for the deployment engineer and add the IAM user to a group that has the PowerUsers IAM policy attached.
- C. Create a new IAM user for the deployment engineer and add the IAM user to a group that has the AdministratorAccess IAM policy attached.
- D. Create a new IAM User for the deployment engineer and add the IAM user to a group that has an IAM policy that allows AWS CloudFormation actions only.
- E. Create an IAM role for the deployment engineer to explicitly define the permissions specific to the AWS CloudFormation stack and launch stacks using the IAM role.

Answer: DE

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles.html https://docs.aws.amazon.com/IAM/latest/UserGuide/id_users.html

NEW QUESTION 205

- (Topic 2)

A company is planning to move its data to an Amazon S3 bucket. The data must be encrypted when it is stored in the S3 bucket. Additionally, the encryption key must be automatically rotated every year.

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

- A. Move the data to the S3 bucket
- B. Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use the built-in key rotation behavior of SSE-S3 encryption keys.
- C. Create an AWS Key Management Service (AWS KMS) customer managed key
- D. Enable automatic key rotation
- E. Set the S3 bucket's default encryption behavior to use the customer managed KMS key

- F. Move the data to the S3 bucket.
- G. Create an AWS Key Management Service (AWS KMS) customer managed ke
- H. Set the S3 bucket's default encryption behavior to use the customer managed KMS ke
- I. Move the data to the S3 bucke
- J. Manually rotate the KMS key every year.
- K. Encrypt the data with customer key material before moving the data to the S3 bucke
- L. Create an AWS Key Management Service (AWS KMS) key without key materia
- M. Import the customer key material into the KMS ke
- N. Enable automatic key rotation.

Answer: B

Explanation:

SSE-S3 - is free and uses AWS owned CMKs (CMK = Customer Master Key). The encryption key is owned and managed by AWS, and is shared among many accounts. Its rotation is automatic with time that varies as shown in the table here. The time is not explicitly defined.

SSE-KMS - has two flavors:

AWS managed CMK. This is free CMK generated only for your account. You can only view it policies and audit usage, but not manage it. Rotation is automatic - once per 1095 days (3 years),

Customer managed CMK. This uses your own key that you create and can manage. Rotation is not enabled by default. But if you enable it, it will be automatically rotated every 1 year. This variant can also use an imported key material by you. If you create such key with an imported material, there is no automated rotation. Only manual rotation.

SSE-C - customer provided key. The encryption key is fully managed by you outside of AWS. AWS will not rotate it.

This solution meets the requirements of moving data to an Amazon S3 bucket, encrypting the data when it is stored in the S3 bucket, and automatically rotating the encryption key every year with the least operational overhead. AWS Key Management Service (AWS KMS) is a service that enables you to create and manage encryption keys for your data. A customer managed key is a symmetric encryption key that you create and manage in AWS KMS. You can enable automatic key rotation for a customer managed key, which means that AWS KMS generates new cryptographic material for the key every year. You can set the S3 bucket's default encryption behavior to use the customer managed KMS key, which means that any object that is uploaded to the bucket without specifying an encryption method will be encrypted with that key.

Option A is incorrect because using server-side encryption with Amazon S3 managed encryption keys (SSE-S3) does not allow you to control or manage the encryption keys. SSE-S3 uses a unique key for each object, and encrypts that key with a master key that is regularly rotated by S3. However, you cannot enable or disable key rotation for SSE-S3 keys, or specify the rotation interval. Option C is incorrect because manually rotating the KMS key every year can increase the operational overhead and complexity, and it may not meet the requirement of rotating the key every year if you forget or delay the rotation process. Option D is incorrect because encrypting the data with customer key material before moving the data to the S3 bucket can increase the operational overhead and complexity, and it may not provide consistent encryption for all objects in the bucket. Creating a KMS key without key material and importing the customer key material into the KMS key can enable you to use your own source of random bits to generate your KMS keys, but it does not support automatic key rotation.

References:

? <https://docs.aws.amazon.com/kms/latest/developerguide/concepts.html>

? <https://docs.aws.amazon.com/kms/latest/developerguide/rotate-keys.html>

? <https://docs.aws.amazon.com/AmazonS3/latest/userguide/bucket-encryption.html>

NEW QUESTION 207

- (Topic 2)

A media company is evaluating the possibility of moving its systems to the AWS Cloud. The company needs at least 10 TB of storage with the maximum possible I/O performance for video processing, 300 TB of very durable storage for storing media content, and 900 TB of storage to meet requirements for archival media that is not in use anymore.

Which set of services should a solutions architect recommend to meet these requirements?

- A. Amazon EBS for maximum performance, Amazon S3 for durable data storage, and Amazon S3 Glacier for archival storage
- B. Amazon EBS for maximum performance, Amazon EFS for durable data storage and Amazon S3 Glacier for archival storage
- C. Amazon EC2 instance store for maximum performance
- D. Amazon EFS for durable data storage and Amazon S3 for archival storage
- E. Amazon EC2 Instance store for maximum performance
- F. Amazon S3 for durable data storage, and Amazon S3 Glacier for archival storage

Answer: A

Explanation:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/InstanceStorage.html>

NEW QUESTION 209

- (Topic 2)

A company runs a production application on a fleet of Amazon EC2 instances. The application reads the data from an Amazon SQS queue and processes the messages in parallel. The message volume is unpredictable and often has intermittent traffic. This application should continually process messages without any downtime.

Which solution meets these requirements MOST cost-effectively?

- A. Use Spot Instances exclusively to handle the maximum capacity required.
- B. Use Reserved Instances exclusively to handle the maximum capacity required.
- C. Use Reserved Instances for the baseline capacity and use Spot Instances to handle additional capacity.
- D. Use Reserved Instances for the baseline capacity and use On-Demand Instances to handle additional capacity.

Answer: D

Explanation:

We recommend that you use On-Demand Instances for applications with short-term, irregular workloads that cannot be interrupted.

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-on-demand-instances.html>

NEW QUESTION 211

- (Topic 2)

A corporation has recruited a new cloud engineer who should not have access to the CompanyConfidential Amazon S3 bucket. The cloud engineer must have read and write permissions on an S3 bucket named AdminTools.

Which IAM policy will satisfy these criteria?

A.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": "arn:aws:s3:::AdminTools"
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::CompanyConfidential"
      ]
    }
  ]
}
```

B.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": [
        "arn:aws:s3:::AdminTools",
        "arn:aws:s3:::CompanyConfidential/*"
      ]
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject", "s3:DeleteObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": "arn:aws:s3:::CompanyConfidential"
    }
  ]
}
```

C.


```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::CompanyConfidential"
      ]
    }
  ]
}
```

D.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject", "s3:DeleteObject" ],
      "Resource": "arn:aws:s3:::AdminTools/"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential",
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::AdminTools/*"
      ]
    }
  ]
}
```

A.

Answer: A

Explanation:

https://docs.amazonaws.cn/en_us/IAM/latest/UserGuide/reference_policies_examples_s3_rw-bucket.html

The policy is separated into two parts because the ListBucket action requires permissions on the bucket while the other actions require permissions on the objects in the bucket. You must use two different Amazon Resource Names (ARNs) to specify bucket-level and object-level permissions. The first Resource element specifies arn:aws:s3:::AdminTools for the ListBucket action so that applications can list all objects in the AdminTools bucket.

NEW QUESTION 214

- (Topic 2)

A company has an event-driven application that invokes AWS Lambda functions up to 800 times each minute with varying runtimes. The Lambda functions access data that is stored in an Amazon Aurora MySQL OB cluster. The company is noticing connection timeouts as user activity increases. The database shows no signs of being overloaded. CPU, memory, and disk access metrics are all low.

Which solution will resolve this issue with the LEAST operational overhead?

- A. Adjust the size of the Aurora MySQL nodes to handle more connection
- B. Configure retry logic in the Lambda functions for attempts to connect to the database
- C. Set up Amazon ElastiCache for Redis to cache commonly read items from the database
- D. Configure the Lambda functions to connect to ElastiCache for reads.
- E. Add an Aurora Replica as a reader node
- F. Configure the Lambda functions to connect to the reader endpoint of the OB cluster rather than to the writer endpoint.

G. Use Amazon ROS Proxy to create a prox

H. Set the DB cluster as the target database Configure the Lambda functions lo connect to the proxy rather than to the DB cluster.

Answer: D

Explanation:

1. database shows no signs of being overloaded. CPU, memory, and disk access metrics are all low==>A and C out. We cannot only add nodes instance or add read replica, because database workload is totally fine, very low. 2. "least operational overhead"==>B out, because b need to configure lambda. 3. ROS proxy: Shares infrequently used connections; High availability with failover; Drives increased efficiency==>proxy can leverage failover to redirect traffic from timeout rds instance to healthy rds instance. So D is right.

NEW QUESTION 217

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