

SAA-C03 Dumps

AWS Certified Solutions Architect - Associate (SAA-C03)

<https://www.certleader.com/SAA-C03-dumps.html>



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 applicatio
- 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 language
- F. Create multiple Lambda functions to support the loa
- G. Use Amazon API Gateway as an entry point to the Lambda functions.
- H. Use a high performance computing (HPC) solution such as AWS ParallelClusterto 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 ROS 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 Manage
- 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'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 ou
- 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 bucke
- 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 dat
- 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 complet
- 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 instanc
- 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 4

- (Topic 1)

A company observes an increase in Amazon EC2 costs in its most recent bill. The billing team notices unwanted vertical scaling of instance types for a couple of EC2 instances. A solutions architect needs to create a graph comparing the last 2 months of EC2 costs and perform an in-depth analysis to identify the root cause of the vertical scaling.

How should the solutions architect generate the information with the LEAST operational overhead?

- A. Use AWS Budgets to create a budget report and compare EC2 costs based on instance types.
- B. Use Cost Explorer's granular filtering feature to perform an in-depth analysis of EC2 costs based on instance types.
- C. Use graphs from the AWS Billing and Cost Management dashboard to compare EC2 costs based on instance types for the last 2 months.
- D. Use AWS Cost and Usage Reports to create a report and send it to an Amazon S3 bucket. Use Amazon QuickSight with Amazon S3 as a source to generate an interactive graph based on instance types.

Answer: B

Explanation:

AWS Cost Explorer is a tool that enables you to view and analyze your costs and usage. You can explore your usage and costs using the main graph, the Cost Explorer cost and usage reports, or the Cost Explorer RI reports. You can view data for up to the last 12 months, forecast how much you're likely to spend for the next 12 months, and get recommendations for what Reserved Instances to purchase. You can use Cost Explorer to identify areas that need further inquiry and see trends that you can use to understand your costs. <https://docs.aws.amazon.com/cost-management/latest/userguide/ce-what-is.html>

NEW QUESTION 5

- (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 6

- (Topic 1)

A company's website uses an Amazon EC2 instance store for its catalog of items. The company wants to make sure that the catalog is highly available and that the catalog is stored in a durable location.

What should a solutions architect do to meet these requirements?

- A. Move the catalog to Amazon ElastiCache for Redis.
- B. Deploy a larger EC2 instance with a larger instance store.
- C. Move the catalog from the instance store to Amazon S3 Glacier Deep Archive.
- D. Move the catalog to an Amazon Elastic File System (Amazon EFS) file system.

Answer: D

Explanation:

Moving the catalog to an Amazon Elastic File System (Amazon EFS) file system provides both high availability and durability. Amazon EFS is a fully-managed, highly-available, and durable file system that is built to scale on demand. With Amazon EFS, the catalog data can be stored and accessed from multiple EC2 instances in different availability zones, ensuring high availability. Also, Amazon EFS automatically stores files redundantly within and across multiple availability zones, making it a durable storage option.

NEW QUESTION 7

- (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 8

- (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 9

- (Topic 1)

A company is migrating a distributed application to AWS The application serves variable workloads The legacy platform consists of a primary server that coordinates jobs across multiple compute nodes The company wants to modernize the application with a solution that maximizes resiliency and scalability. How should a solutions architect design the architecture to meet these requirements?

- A. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination for the jobs Implement the compute nodes with Amazon EC2 instances that are managed in an Auto Scaling group
- B. Configure EC2 Auto Scaling to use scheduled scaling
- C. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination for the jobs Implement the compute nodes with Amazon EC2 Instances that are managed in an Auto Scaling group Configure EC2 Auto Scaling based on the size of the queue
- D. Implement the primary server and the compute nodes with Amazon EC2 instances that are managed In an Auto Scaling group
- E. Configure AWS CloudTrail as a destination for the fobs Configure EC2 Auto Scaling based on the load on the primary server
- F. implement the primary server and the compute nodes with Amazon EC2 instances that are managed in an Auto Scaling group Configure Amazon EventBridge (Amazon CloudWatch Events) as a destination for the jobs Configure EC2 Auto Scaling based on the load on the compute nodes

Answer: B

Explanation:

To maximize resiliency and scalability, the best solution is to use an Amazon SQS queue as a destination for the jobs. This decouples the primary server from the compute nodes, allowing them to scale independently. This also helps to prevent job loss in the event of a failure. Using an Auto Scaling group of Amazon EC2 instances for the compute nodes allows for automatic scaling based on the workload. In this case, it's recommended to configure the Auto Scaling group based on the size of the Amazon SQS queue, which is a better indicator of the actual workload than the load on the primary server or compute nodes. This approach ensures that the application can handle variable workloads, while also minimizing costs by automatically scaling up or down the compute nodes as needed.

NEW QUESTION 10

- (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 10

- (Topic 1)

A company uses 50 TB of data for reporting. The company wants to move this data from on premises to AWS. A custom application in the company's data center runs a weekly data transformation job. The company plans to pause the application until the data transfer is complete and needs to begin the transfer process as soon as possible.

The data center does not have any available network bandwidth for additional workloads. A solutions architect must transfer the data and must configure the transformation job to continue to run in the AWS Cloud.

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

- A. Use AWS DataSync to move the data. Create a custom transformation job by using AWS Glue.
- B. Order an AWS Snowcone device to move the data. Deploy the transformation application to the device.
- C. Order an AWS Snowball Edge Storage Optimized device.
- D. Copy the data to the device.
- E. Create a custom transformation job by using AWS Glue.
- F. Order an AWS Snowball Edge Storage Optimized device that includes Amazon EC2 compute. Copy the data to the device. Create a new EC2 instance on AWS to run the transformation application.

Answer: D

Explanation:

AWS Snowball Edge is a type of Snowball device with on-board storage and compute power for select AWS capabilities. Snowball Edge can do local processing and edge-computing workloads in addition to transferring data between your local environment and the AWS Cloud¹. Users can order an AWS Snowball Edge Storage Optimized device that includes Amazon EC2 compute to move 50 TB of data from on premises to AWS. The Storage Optimized device has 80 TB of usable storage and 40 vCPUs of compute power². Users can copy the data to the device using the AWS OpsHub graphical user interface or the Snowball client command line tool³. Users can also create and run Amazon EC2 instances on the device using Amazon Machine Images (AMIs) that are compatible with the sbe1 instance type. Users can use the Snowball Edge device to transfer the data and run the transformation job locally without using any network bandwidth. Users can also create a new EC2 instance on AWS to run the transformation application after the data transfer is complete. Amazon EC2 is a web service that provides secure, resizable compute capacity in the cloud. Users can launch an EC2 instance in the same AWS Region where they send their Snowball Edge device and choose an AMI that matches their application requirements. Users can use the EC2 instance to continue running the transformation job in the AWS Cloud.

NEW QUESTION 11

- (Topic 1)

A company hosts an application on AWS Lambda functions that are invoked by an Amazon API Gateway API. The Lambda functions save customer data to an Amazon Aurora MySQL database. Whenever the company upgrades the database, the Lambda functions fail to establish database connections until the upgrade is complete. The result is that customer data is not recorded for some of the event.

A solutions architect needs to design a solution that stores customer data that is created during database upgrades.

Which solution will meet these requirements?

- A. Provision an Amazon RDS proxy to sit between the Lambda functions and the database. Configure the Lambda functions to connect to the RDS proxy.
- B. Increase the run time of the Lambda functions to the maximum. Create a retry mechanism in the code that stores the customer data in the database.
- C. Persist the customer data to Lambda local storage.
- D. Configure new Lambda functions to scan the local storage to save the customer data to the database.
- E. Store the customer data in an Amazon Simple Queue Service (Amazon SQS) FIFO queue. Create a new Lambda function that polls the queue and stores the customer data in the database.

Answer: D

Explanation:

<https://www.learnaws.org/2020/12/13/aws-rds-proxy-deep-dive/>

RDS proxy can improve application availability in such a situation by waiting for the new database instance to be functional and maintaining any requests received from the application during this time. The end result is that the application is more resilient to issues with the underlying database.

This will enable solution to hold data till the time DB comes back to normal. RDS proxy is to optimally utilize the connection between Lambda and DB. Lambda can open multiple connection concurrently which can be taxing on DB compute resources, hence RDS proxy was introduced to manage and leverage these connections efficiently.

NEW QUESTION 13

- (Topic 1)

A company runs an ecommerce application on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Amazon EC2 Auto Scaling group across multiple Availability Zones. The Auto Scaling group scales based on CPU utilization metrics. The ecommerce application stores the transaction data in a MySQL 8.0 database that is hosted on a large EC2 instance.

The database's performance degrades quickly as application load increases. The application handles more read requests than write transactions. The company wants a solution that will automatically scale the database to meet the demand of unpredictable read workloads while maintaining high availability.

Which solution will meet these requirements?

- A. Use Amazon Redshift with a single node for leader and compute functionality.
- B. Use Amazon RDS with a Single-AZ deployment. Configure Amazon RDS to add reader instances in a different Availability Zone.
- C. Use Amazon Aurora with a Multi-AZ deployment.
- D. Configure Aurora Auto Scaling with Aurora Replicas.
- E. Use Amazon ElastiCache for Memcached with EC2 Spot Instances.

Answer: C

Explanation:

AURORA is 5x performance improvement over MySQL on RDS and handles more read requests than write,; maintaining high availability = Multi-AZ deployment

NEW QUESTION 15

- (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 17

- (Topic 1)

A company needs to store data in Amazon S3 and must prevent the data from being changed. The company wants new objects that are uploaded to Amazon S3 to remain unchangeable for a nonspecific amount of time until the company decides to modify the objects. Only specific users in the company's AWS account can have the ability to delete the objects. What should a solutions architect do to meet these requirements?

- A. Create an S3 Glacier vault Apply a write-once, read-many (WORM) vault lock policy to the objects
- B. Create an S3 bucket with S3 Object Lock enabled Enable versioning Set a retention period of 100 years Use governance mode as the S3 bucket's default retention mode for new objects
- C. Create an S3 bucket Use AWS CloudTrail to track any S3 API events that modify the objects Upon notification, restore the modified objects from any backup versions that the company has
- D. Create an S3 bucket with S3 Object Lock enabled Enable versioning Add a legal hold to the objects Add the s3 PutObjectLegalHold permission to the IAM policies of users who need to delete the objects

Answer: D

Explanation:

"The Object Lock legal hold operation enables you to place a legal hold on an object version. Like setting a retention period, a legal hold prevents an object version from being overwritten or deleted. However, a legal hold doesn't have an associated retention period and remains in effect until removed."

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/batch-ops-legal-hold.html>

NEW QUESTION 20

- (Topic 1)

A company is hosting a web application on AWS using a single Amazon EC2 instance that stores user-uploaded documents in an Amazon EBS volume. For better scalability and availability, the company duplicated the architecture and created a second EC2 instance and EBS volume in another Availability Zone placing both behind an Application Load Balancer After completing this change, users reported that, each time they refreshed the website, they could see one subset of their documents or the other, but never all of the documents at the same time.

What should a solutions architect propose to ensure users see all of their documents at once?

- A. Copy the data so both EBS volumes contain all the documents.
- B. Configure the Application Load Balancer to direct a user to the server with the documents
- C. Copy the data from both EBS volumes to Amazon EFS Modify the application to save new documents to Amazon EFS
- D. Configure the Application Load Balancer to send the request to both servers Return each document from the correct server.

Answer: C

Explanation:

<https://docs.aws.amazon.com/efs/latest/ug/how-it-works.html#how-it-works-ec2>

NEW QUESTION 22

- (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 26

- (Topic 1)

A solutions architect is designing the cloud architecture for a new application being deployed on AWS. The process should run in parallel while adding and removing application nodes as needed based on the number of jobs to be processed. The processor application is stateless. The solutions architect must ensure that the application is loosely coupled and the job items are durably stored.

Which design should the solutions architect use?

- A. Create an Amazon SNS topic to send the jobs that need to be processed Create an Amazon Machine Image (AMI) that consists of the processor application Create a launch configuration that uses the AMI Create an Auto Scaling group using the launch configuration Set the scaling policy for the Auto Scaling group to add and remove nodes based on CPU usage
- B. Create an Amazon SQS queue to hold the jobs that need to be processed Create an Amazon Machine image (AMI) that consists of the processor application Create a launch configuration that uses the AMI Create an Auto Scaling group using the launch configuration Set the scaling policy for the Auto Scaling group to add and remove nodes based on network usage
- C. Create an Amazon SQS queue to hold the jobs that need to be processed Create an Amazon Machine image (AMI) that consists of the processor application Create a launch template that uses the AMI Create an Auto Scaling group using the launch template Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of items in the SQS queue
- D. Create an Amazon SNS topic to send the jobs that need to be processed Create an Amazon Machine Image (AMI) that consists of the processor application Create a launch template that uses the AMI Create an Auto Scaling group using the launch template Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of messages published to the SNS topic

Answer: C

Explanation:

"Create an Amazon SQS queue to hold the jobs that need to be processed. Create an Amazon EC2 Auto Scaling group for the compute application. Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of items in the SQS queue"

In this case we need to find a durable and loosely coupled solution for storing jobs. Amazon SQS is ideal for this use case and can be configured to use dynamic scaling based on the number of jobs waiting in the queue. To configure this scaling you can use the backlog per instance metric with the target value being the acceptable backlog per instance to maintain. You can calculate these numbers as follows: Backlog per instance: To calculate your backlog per instance, start with the ApproximateNumberOfMessages queue attribute to determine the length of the SQS queue

NEW QUESTION 29

- (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 to 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 32

- (Topic 1)

An Amazon EC2 administrator created the following policy associated with an IAM group containing several users

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "ec2:TerminateInstances",
      "Resource": "*",
      "Condition": {
        "IpAddress": {
          "aws:SourceIp": "10.100.100.0/24"
        }
      }
    },
    {
      "Effect": "Deny",
      "Action": "ec2:*",
      "Resource": "*",
      "Condition": {
        "StringNotEquals": {
          "ec2:Region": "us-east-1"
        }
      }
    }
  ]
}
```

What is the effect of this policy?

- A. Users can terminate an EC2 instance in any AWS Region except us-east-1.
- B. Users can terminate an EC2 instance with the IP address 10 100 100 1 in the us-east-1 Region
- C. Users can terminate an EC2 instance in the us-east-1 Region when the user's source IP is 10.100.100.254.
- D. Users cannot terminate an EC2 instance in the us-east-1 Region when the user's source IP is 10.100 100 254

Answer: C

Explanation:

as the policy prevents anyone from doing any EC2 action on any region except us-east-1 and allows only users with source ip 10.100.100.0/24 to terminate instances. So user with source ip 10.100.100.254 can terminate instances in us-east-1 region.

NEW QUESTION 34

- (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 39

- (Topic 1)

A company needs to configure a real-time data ingestion architecture for its application. The company needs an API, a process that transforms data as the data is streamed, and a storage solution for the data.

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

- A. Deploy an Amazon EC2 instance to host an API that sends data to an Amazon Kinesis data stream
- B. Create an Amazon Kinesis Data Firehose delivery stream that uses the Kinesis data stream as a data source
- C. Use AWS Lambda functions to transform the data
- D. Use the Kinesis Data Firehose delivery stream to send the data to Amazon S3.
- E. Deploy an Amazon EC2 instance to host an API that sends data to AWS Glue
- F. Stop source/destination checking on the EC2 instance
- G. Use AWS Glue to transform the data and to send the data to Amazon S3.
- H. Configure an Amazon API Gateway API to send data to an Amazon Kinesis data stream
- I. Create an Amazon Kinesis Data Firehose delivery stream that uses the Kinesis data stream as a data source
- J. Use AWS Lambda functions to transform the data
- K. Use the Kinesis Data Firehose delivery stream to send the data to Amazon S3.
- L. Configure an Amazon API Gateway API to send data to AWS Glue
- M. Use AWS Lambda functions to transform the data
- N. Use AWS Glue to send the data to Amazon S3.

Answer: C

NEW QUESTION 40

- (Topic 1)

A company needs to store its accounting records in Amazon S3. The records must be immediately accessible for 1 year and then must be archived for an additional 9 years. No one at the company, including administrative users and root users, can be able to delete the records during the entire 10-year period. The records must be stored with maximum resiliency.

Which solution will meet these requirements?

- A. Store the records in S3 Glacier for the entire 10-year period
- B. Use an access control policy to deny deletion of the records for a period of 10 years.
- C. Store the records by using S3 Intelligent-Tiering
- D. Use an IAM policy to deny deletion of the record
- E. After 10 years, change the IAM policy to allow deletion.
- F. Use an S3 Lifecycle policy to transition the records from S3 Standard to S3 Glacier Deep Archive after 1 year
- G. Use S3 Object Lock in compliance mode for a period of 10 years.
- H. Use an S3 Lifecycle policy to transition the records from S3 Standard to S3 One Zone-Infrequent Access (S3 One Zone-IA) after 1 year
- I. Use S3 Object Lock in governance mode for a period of 10 years.

Answer: C

Explanation:

To meet the requirements of immediately accessible records for 1 year and then archived for an additional 9 years with maximum resiliency, we can use S3 Lifecycle policy to transition records from S3 Standard to S3 Glacier Deep Archive after 1 year. And to ensure that the records cannot be deleted by anyone, including administrative and root users, we can use S3 Object Lock in compliance mode for a period of 10 years. Therefore, the correct answer is option C.

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

NEW QUESTION 42

- (Topic 1)

A company has several web servers that need to frequently access a common Amazon RDS MySQL Multi-AZ DB instance. The company wants a secure method for the web servers to connect to the database while meeting a security requirement to rotate user credentials frequently.

Which solution meets these requirements?

- A. Store the database user credentials in AWS Secrets Manager. Grant the necessary IAM permissions to allow the web servers to access AWS Secrets Manager.
- B. Store the database user credentials in AWS Systems Manager OpsCenter. Grant the necessary IAM permissions to allow the web servers to access OpsCenter.
- C. Store the database user credentials in a secure Amazon S3 bucket. Grant the necessary IAM permissions to allow the web servers to retrieve credentials and access the database.
- D. Store the database user credentials in files encrypted with AWS Key Management Service (AWS KMS) on the web server file system.
- E. The web server should be able to decrypt the files and access the database.

Answer: A

Explanation:

AWS Secrets Manager helps you protect secrets needed to access your applications, services, and IT resources. The service enables you to easily rotate, manage, and retrieve database credentials, API keys, and other secrets throughout their lifecycle.

<https://docs.aws.amazon.com/secretsmanager/latest/userguide/intro.html>

Secrets Manager enables you to replace hardcoded credentials in your code, including passwords, with an API call to Secrets Manager to retrieve the secret programmatically. This helps ensure the secret can't be compromised by someone examining your code, because the secret no longer exists in the code. Also, you can configure Secrets Manager to automatically rotate the secret for you according to a specified schedule. This enables you to replace long-term secrets with short-term ones, significantly reducing the risk of compromise.

NEW QUESTION 46

- (Topic 1)

A company receives 10 TB of instrumentation data each day from several machines located at a single factory. The data consists of JSON files stored on a storage area network (SAN) in an on-premises data center located within the factory. The company wants to send this data to Amazon S3 where it can be accessed by several additional systems that provide critical near-real-time analytics. A secure transfer is important because the data is considered sensitive.

Which solution offers the MOST reliable data transfer?

- A. AWS DataSync over public internet
- B. AWS DataSync over AWS Direct Connect
- C. AWS Database Migration Service (AWS DMS) over public internet
- D. AWS Database Migration Service (AWS DMS) over AWS Direct Connect

Answer: B

Explanation:

These are some of the main use cases for AWS DataSync: • Data migration

– Move active datasets rapidly over the network into Amazon S3, Amazon EFS, or FSx for Windows File Server. DataSync includes automatic encryption and data integrity validation to help make sure that your data arrives securely, intact, and ready to use.

"DataSync includes encryption and integrity validation to help make sure your data arrives securely, intact, and ready to use."

<https://aws.amazon.com/datasync/faqs/>

NEW QUESTION 51

- (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 end point 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 52

- (Topic 1)

A company recently migrated to AWS and wants to implement a solution to protect the traffic that flows in and out of the production VPC. The company had an inspection server in its on-premises data center. The inspection server performed specific operations such as traffic flow inspection and traffic filtering. The company wants to have the same functionalities in the AWS Cloud.

Which solution will meet these requirements?

- A. Use Amazon GuardDuty for traffic inspection and traffic filtering in the production VPC
- B. Use Traffic Mirroring to mirror traffic from the production VPC for traffic inspection and filtering.
- C. Use AWS Network Firewall to create the required rules for traffic inspection and traffic filtering for the production VPC.
- D. Use AWS Firewall Manager to create the required rules for traffic inspection and traffic filtering for the production VPC.

Answer: C

Explanation:

AWS Network Firewall supports both inspection and filtering as required

NEW QUESTION 53

- (Topic 1)

A company is storing backup files by using Amazon S3 Standard storage. The files are accessed frequently for 1 month. However, the files are not accessed after 1 month. The company must keep the files indefinitely.

Which storage solution will meet these requirements MOST cost-effectively?

- A. Configure S3 Intelligent-Tiering to automatically migrate objects.
- B. Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 Glacier Deep Archive after 1 month.
- C. Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 Standard-Infrequent Access (S3 Standard-IA) after 1 month.
- D. Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 One Zone-Infrequent Access (S3 One Zone-IA) after 1 month.

Answer: B

Explanation:

The storage solution that will meet these requirements most cost-effectively is B: Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 Glacier Deep Archive after 1 month. Amazon S3 Glacier Deep Archive is a secure, durable, and extremely low-cost Amazon S3 storage class for long-term retention of data that is rarely accessed and for which retrieval times of several hours are acceptable. It is the lowest-cost storage option in Amazon S3, making it a cost-effective choice for storing backup files that are not accessed after 1 month. You can use an S3 Lifecycle configuration to automatically transition objects from S3 Standard to S3 Glacier Deep Archive after 1 month. This will minimize the storage costs for the backup files that are not accessed frequently.

NEW QUESTION 56

- (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
- 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 57

- (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 is the MOST operationally efficient?

- 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 automatic 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 59

- (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 61

- (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 Management Service (AWS KMS) encryption key
- F. Migrate the credential file to the S3 bucket
- G. Point the application to the S3 bucket.
- H. Create an encrypted Amazon Elastic Block Store (Amazon EBS) volume (or each EC2 instance)
- I. Attach the new EBS volume to each EC2 instance
- J. Migrate the credential file to the new EBS volume
- K. 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 66

- (Topic 1)

A company recently launched a variety of new workloads on Amazon EC2 instances in its AWS account. The company needs to create a strategy to access and administer the instances remotely and securely. The company needs to implement a repeatable process that works with native AWS services and follows the AWS Well-Architected Framework.

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

- A. Use the EC2 serial console to directly access the terminal interface of each instance for administration.
- B. Attach the appropriate IAM role to each existing instance and new instance
- C. Use AWS Systems Manager Session Manager to establish a remote SSH session.
- D. Create an administrative SSH key pair
- E. Load the public key into each EC2 instance
- F. Deploy a bastion host in a public subnet to provide a tunnel for administration of each instance.
- G. Establish an AWS Site-to-Site VPN connection
- H. Instruct administrators to use their local on-premises machines to connect directly to the instances by using SSH keys across the VPN tunnel.

Answer: B

Explanation:

<https://docs.aws.amazon.com/systems-manager/latest/userguide/setup-launch-managed-instance.html>

NEW QUESTION 68

- (Topic 1)

A hospital recently deployed a RESTful API with Amazon API Gateway and AWS Lambda. The hospital uses API Gateway and Lambda to upload reports that are in PDF format and JPEG format. The hospital needs to modify the Lambda code to identify protected health information (PHI) in the reports. Which solution will meet these requirements with the LEAST operational overhead?

- A. Use existing Python libraries to extract the text from the reports and to identify the PHI from the extracted text.
- B. Use Amazon Textract to extract the text from the reports. Use Amazon SageMaker to identify the PHI from the extracted text.
- C. Use Amazon Textract to extract the text from the reports. Use Amazon Comprehend Medical to identify the PHI from the extracted text.
- D. Use Amazon Rekognition to extract the text from the reports. Use Amazon Comprehend Medical to identify the PHI from the extracted text.

Answer: C

Explanation:

To meet the requirements of the company to have access to both AWS and on-premises file storage with minimum latency, a hybrid cloud architecture can be used. One solution is to deploy and configure Amazon FSx for Windows File Server on AWS, which provides fully managed Windows file servers. The on-premises file data can be moved to the FSx File Gateway, which can act as a bridge between on-premises and AWS file storage. The cloud workloads can be configured to use FSx for Windows File Server on AWS, while the on-premises workloads can be configured to use the FSx File Gateway. This solution minimizes operational overhead and requires no significant changes to the existing file access patterns. The connectivity between on-premises and AWS can be established using an AWS Site-to-Site VPN connection.

Reference:

AWS FSx for Windows File Server: <https://aws.amazon.com/fsx/windows/> AWS FSx File Gateway: <https://aws.amazon.com/fsx/file-gateway/>

AWS Site-to-Site VPN: <https://aws.amazon.com/vpn/site-to-site-vpn/>

NEW QUESTION 69

- (Topic 1)

A company wants to reduce the cost of its existing three-tier web architecture. The web, application, and database servers are running on Amazon EC2 instances for the development, test, and production environments. The EC2 instances average 30% CPU utilization during peak hours and 10% CPU utilization during non-peak hours.

The production EC2 instances run 24 hours a day. The development and test EC2 instances run for at least 8 hours each day. The company plans to implement automation to stop the development and test EC2 instances when they are not in use.

Which EC2 instance purchasing solution will meet the company's requirements MOST cost-effectively?

- A. Use Spot Instances for the production EC2 instance.
- B. Use Reserved Instances for the development and test EC2 instances.
- C. Use Reserved Instances for the production EC2 instance.
- D. Use On-Demand Instances for the development and test EC2 instances.
- E. Use Spot blocks for the production EC2 instance.
- F. Use Reserved Instances for the development and test EC2 instances.
- G. Use On-Demand Instances for the production EC2 instance.
- H. Use Spot blocks for the development and test EC2 instances.

Answer: B

NEW QUESTION 73

- (Topic 2)

A company has a Windows-based application that must be migrated to AWS. The application requires the use of a shared Windows file system attached to multiple Amazon EC2 Windows instances that are deployed across multiple Availability Zones.

What should a solutions architect do to meet this requirement?

- A. Configure AWS Storage Gateway in volume gateway mode.
- B. Mount the volume to each Windows instance.
- C. Configure Amazon FSx for Windows File Server.
- D. Mount the Amazon FSx file system to each Windows instance.
- E. Configure a file system by using Amazon Elastic File System (Amazon EFS). Mount the EFS file system to each Windows instance.
- F. Configure an Amazon Elastic Block Store (Amazon EBS) volume with the required size.
- G. Attach each EC2 instance to the volume.
- H. Mount the file system within the volume to each Windows instance.

Answer: B

Explanation:

This solution meets the requirement of migrating a Windows-based application that requires the use of a shared Windows file system attached to multiple Amazon EC2 Windows instances that are deployed across multiple Availability Zones. Amazon FSx for Windows File Server provides fully managed shared storage built on Windows Server, and delivers a wide range of data access, data management, and administrative capabilities. It supports the Server Message Block (SMB) protocol and can be mounted to EC2 Windows instances across multiple Availability Zones.

Option A is incorrect because AWS Storage Gateway in volume gateway mode provides cloud-backed storage volumes that can be mounted as iSCSI devices from on-premises application servers, but it does not support SMB protocol or EC2 Windows instances. Option C is incorrect because Amazon Elastic File System (Amazon EFS) provides a scalable and elastic NFS file system for Linux-based workloads, but it does not support SMB protocol or EC2 Windows instances.

Option D is incorrect because Amazon Elastic Block Store (Amazon EBS) provides persistent block storage volumes for use with EC2 instances, but it does not support SMB protocol or attaching multiple instances to the same volume.

References:

? <https://aws.amazon.com/fsx/windows/>

? <https://docs.aws.amazon.com/fsx/latest/WindowsGuide/using-file-shares.html>

NEW QUESTION 75

- (Topic 2)

A company wants to migrate its on-premises data center to AWS. According to the company's compliance requirements, the company can use only the ap-northeast-3 Region. Company administrators are not permitted to connect VPCs to the internet.

Which solutions will meet these requirements? (Choose two.)

- A. Use AWS Control Tower to implement data residency guardrails to deny internet access and deny access to all AWS Regions except ap-northeast-3.
- B. Use rules in AWS WAF to prevent internet access
- C. Deny access to all AWS Regions except ap-northeast-3 in the AWS account settings.
- D. Use AWS Organizations to configure service control policies (SCPs) that prevent VPCs from gaining internet access
- E. Deny access to all AWS Regions except ap-northeast-3.
- F. Create an outbound rule for the network ACL in each VPC to deny all traffic from 0.0.0.0/0. Create an IAM policy for each user to prevent the use of any AWS Region other than ap-northeast-3.
- G. Use AWS Config to activate managed rules to detect and alert for internet gateways and to detect and alert for new resources deployed outside of ap-northeast-3.

Answer: AC

Explanation:

https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps_examples_vpc.html#example_vpc_2

NEW QUESTION 78

- (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 83

- (Topic 2)

A company is running an online transaction processing (OLTP) workload on AWS. This workload uses an unencrypted Amazon RDS DB instance in a Multi-AZ deployment. Daily database snapshots are taken from this instance.

What should a solutions architect do to ensure the database and snapshots are always encrypted moving forward?

- A. Encrypt a copy of the latest DB snapshot
- B. Replace existing DB instance by restoring the encrypted snapshot
- C. Create a new encrypted Amazon Elastic Block Store (Amazon EBS) volume and copy the snapshots to it. Enable encryption on the DB instance
- D. Copy the snapshots and enable encryption using AWS Key Management Service (AWS KMS). Restore encrypted snapshot to an existing DB instance
- E. Copy the snapshots to an Amazon S3 bucket that is encrypted using server-side encryption with AWS Key Management Service (AWS KMS) managed keys (SSE-KMS)

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_RestoreFromSnapshot.html#USER_RestoreFromSnapshot.CON
Under "Encrypt unencrypted resources" - <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSEncryption.html>

NEW QUESTION 88

- (Topic 2)

A company is planning to build a high performance computing (HPC) workload as a service solution that is hosted on AWS. A group of 16 Amazon EC2 Linux instances requires the lowest possible latency for node-to-node communication. The instances also need a shared block device volume for high-performing storage.

Which solution will meet these requirements?

- A. Use a distributed placement group
- B. Attach a single Provisioned IOPS SSD Amazon Elastic Block Store (Amazon EBS) volume to all the instances by using Amazon EBS Multi-Attach
- C. Use a cluster placement group
- D. Create shared file systems across the instances by using Amazon Elastic File System (Amazon EFS)
- E. Use a partition placement group
- F. Create shared tile systems across the instances by using Amazon Elastic File System (Amazon EFS).
- G. Use a spread placement group

H. Attach a single Provisioned IOPS SSD Amazon Elastic Block Store (Amazon EBS) volume to all the instances by using Amazon EBS Multi-Attach

Answer: A

Explanation:

1. lowest possible latency + node to node ==> cluster placement(must be within one AZ), so C, D out
- * 2. For EBS Multi-Attach, up to 16 instances can be attached to a single volume==>we have 16 linux instance==>more close to A
- * 3. "need a shared block device volume"==>EBS Multi-attach is Block Storage whereas EFS is File Storage==> B out
- * 4. EFS automatically replicates data within and across 3 AZ==>we use cluster placement so all EC2 are within one AZ.
- * 5. EBS Multi-attach volumes can be used for clients within a single AZ. <https://repost.aws/questions/QUK2RANw1QTKCwpDUwCCI72A/efs-vs-efs-mult-attach>

NEW QUESTION 90

- (Topic 2)

A company wants to move its application to a serverless solution. The serverless solution needs to analyze existing and new data by using SL. The company stores the data in an Amazon S3 bucket. The data requires encryption and must be replicated to a different AWS Region. Which solution will meet these requirements with the LEAST operational overhead?

- A. Create a new S3 bucket
- B. Load the data into the new S3 bucket
- C. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region
- D. Use server-side encryption with AWS KMS multi-Region keys (SSE-KMS). Use Amazon Athena to query the data.
- E. Create a new S3 bucket
- F. Load the data into the new S3 bucket
- G. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region
- H. Use server-side encryption with AWS KMS multi-Region keys (SSE-KMS). Use Amazon RDS to query the data.
- I. Load the data into the existing S3 bucket
- J. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region
- K. Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use Amazon Athena to query the data.
- L. Load the data into the existing S3 bucket
- M. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region
- N. Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use Amazon RDS to query the data.

Answer: A

Explanation:

This solution meets the requirements of a serverless solution, encryption, replication, and SQL analysis with the least operational overhead. Amazon Athena is a serverless interactive query service that can analyze data in S3 using standard SQL. S3 Cross-Region Replication (CRR) can replicate encrypted objects to an S3 bucket in another Region automatically. Server-side encryption with AWS KMS multi-Region keys (SSE-KMS) can encrypt the data at rest using keys that are replicated across multiple Regions. Creating a new S3 bucket can avoid potential conflicts with existing data or configurations. Option B is incorrect because Amazon RDS is not a serverless solution and it cannot query data in S3 directly. Option C is incorrect because server-side encryption with Amazon S3 managed encryption keys (SSE-S3) does not use KMS keys and it does not support multi-Region replication. Option D is incorrect because Amazon RDS is not a serverless solution and it cannot query data in S3 directly. It is also incorrect for the same reason as option C. References:
? <https://docs.aws.amazon.com/AmazonS3/latest/userguide/replication-walkthrough-4.html>
? <https://aws.amazon.com/blogs/storage/considering-four-different-replication-options-for-data-in-amazon-s3/>
? <https://docs.aws.amazon.com/AmazonS3/latest/userguide/UsingEncryption.html>
? <https://aws.amazon.com/athena/>

NEW QUESTION 95

- (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 96

- (Topic 2)

A company runs its two-tier e-commerce website on AWS. The web tier consists of a load balancer that sends traffic to Amazon EC2 instances. The database tier uses an Amazon RDS DB instance. The EC2 instances and the RDS DB instance should not be exposed to the public internet. The EC2 instances require internet access to complete payment processing of orders through a third-party web service. The application must be highly available.

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

- A. Use an Auto Scaling group to launch the EC2 instances in private subnets
- B. Deploy an RDS Multi-AZ DB instance in private subnets.
- C. Configure a VPC with two private subnets and two NAT gateways across two Availability Zones
- D. Deploy an Application Load Balancer in the private subnets.
- E. Use an Auto Scaling group to launch the EC2 instances in public subnets across two Availability Zones
- F. Deploy an RDS Multi-AZ DB instance in private subnets.

- G. Configure a VPC with one public subnet, one private subnet, and two NAT gateways across two Availability Zone
- H. Deploy an Application Load Balancer in the public subnet.
- I. Configure a VPC with two public subnets, two private subnets, and two NAT gateways across two Availability Zone
- J. Deploy an Application Load Balancer in the public subnets.

Answer: AE

Explanation:

Before you begin: Decide which two Availability Zones you will use for your EC2 instances. Configure your virtual private cloud (VPC) with at least one public subnet in each of these Availability Zones. These public subnets are used to configure the load balancer. You can launch your EC2 instances in other subnets of these Availability Zones instead.

NEW QUESTION 100

- (Topic 2)

An entertainment company is using Amazon DynamoDB to store media metadata. The application is read intensive and experiencing delays. The company does not have staff to handle additional operational overhead and needs to improve the performance efficiency of DynamoDB without reconfiguring the application. What should a solutions architect recommend to meet this requirement?

- A. Use Amazon ElastiCache for Redis.
- B. Use Amazon DynamoDB Accelerator (DAX).
- C. Replicate data by using DynamoDB global tables.
- D. Use Amazon ElastiCache for Memcached with Auto Discovery enabled.

Answer: B

Explanation:

<https://aws.amazon.com/dynamodb/dax/>

NEW QUESTION 101

- (Topic 2)

A company runs workloads on AWS. The company needs to connect to a service from an external provider. The service is hosted in the provider's VPC. According to the company's security team, the connectivity must be private and must be restricted to the target service. The connection must be initiated only from the company's VPC. Which solution will meet these requirements?

- A. Create a VPC peering connection between the company's VPC and the provider's VPC
- B. Update the route table to connect to the target service.
- C. Ask the provider to create a virtual private gateway in its VPC
- D. Use AWS PrivateLink to connect to the target service.
- E. Create a NAT gateway in a public subnet of the company's VPC
- F. Update the route table to connect to the target service.
- G. Ask the provider to create a VPC endpoint for the target service
- H. Use AWS PrivateLink to connect to the target service.

Answer: D

Explanation:

****AWS PrivateLink provides private connectivity between VPCs, AWS services, and your on-premises networks, without exposing your traffic to the public internet**.** AWS PrivateLink makes it easy to connect services across different accounts and VPCs to significantly simplify your network architecture. Interface ****VPC endpoints****, powered by AWS PrivateLink, connect you to services hosted by AWS Partners and supported solutions available in AWS Marketplace.
<https://aws.amazon.com/privatelink/>

NEW QUESTION 105

- (Topic 2)

A gaming company hosts a browser-based application on AWS. The users of the application consume a large number of videos and images that are stored in Amazon S3. This content is the same for all users. The application has increased in popularity, and millions of users worldwide are accessing these media files. The company wants to provide the files to the users while reducing the load on the origin. Which solution meets these requirements MOST cost-effectively?

- A. Deploy an AWS Global Accelerator accelerator in front of the web servers.
- B. Deploy an Amazon CloudFront web distribution in front of the S3 bucket.
- C. Deploy an Amazon ElastiCache for Redis instance in front of the web servers.
- D. Deploy an Amazon ElastiCache for Memcached instance in front of the web servers.

Answer: B

Explanation:

ElastiCache, enhances the performance of web applications by quickly retrieving information from fully-managed in-memory data stores. It utilizes Memcached and Redis, and manages to considerably reduce the time your applications would, otherwise, take to read data from disk-based databases. Amazon CloudFront supports dynamic content from HTTP and WebSocket protocols, which are based on the Transmission Control Protocol (TCP) protocol. Common use cases include dynamic API calls, web pages and web applications, as well as an application's static files such as audio and images. It also supports on-demand media streaming over HTTP. AWS Global Accelerator supports both User Datagram Protocol (UDP) and TCP-based protocols. It is commonly used for non-HTTP use cases, such as gaming, IoT and voice over IP. It is also good for HTTP use cases that need static IP addresses or fast regional failover

NEW QUESTION 106

- (Topic 2)

A company runs a web-based portal that provides users with global breaking news, local alerts, and weather updates. The portal delivers each user a personalized view by using mixture of static and dynamic content. Content is served over HTTPS through an API server running on an Amazon EC2 instance behind an

Application Load Balancer (ALB). The company wants the portal to provide this content to its users across the world as quickly as possible. How should a solutions architect design the application to ensure the LEAST amount of latency for all users?

- A. Deploy the application stack in a single AWS Region
- B. Use Amazon CloudFront to serve all static and dynamic content by specifying the ALB as an origin.
- C. Deploy the application stack in two AWS Region
- D. Use an Amazon Route 53 latency routing policy to serve all content from the ALB in the closest Region.
- E. Deploy the application stack in a single AWS Region
- F. Use Amazon CloudFront to serve the static content
- G. Serve the dynamic content directly from the ALB.
- H. Deploy the application stack in two AWS Region
- I. Use an Amazon Route 53 geolocation routing policy to serve all content from the ALB in the closest Region.

Answer: A

Explanation:

<https://aws.amazon.com/blogs/networking-and-content-delivery/deliver-your-apps-dynamic-content-using-amazon-cloudfront-getting-started-template/>

NEW QUESTION 110

- (Topic 2)

A solutions architect must design a solution that uses Amazon CloudFront with an Amazon S3 origin to store a static website. The company's security policy requires that all website traffic be inspected by AWS WAF. How should the solutions architect comply with these requirements?

- A. Configure an S3 bucket policy to accept requests coming from the AWS WAF Amazon Resource Name (ARN) only.
- B. Configure Amazon CloudFront to forward all incoming requests to AWS WAF before requesting content from the S3 origin.
- C. Configure a security group that allows Amazon CloudFront IP addresses to access Amazon S3 only.
- D. Associate AWS WAF to CloudFront.
- E. Configure Amazon CloudFront and Amazon S3 to use an origin access identity (OAI) to restrict access to the S3 bucket.
- F. Enable AWS WAF on the distribution.

Answer: D

Explanation:

<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/private-content-restricting-access-to-s3.html>
<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/distribution-web-aws-waf.html>

NEW QUESTION 115

- (Topic 2)

A company owns an asynchronous API that is used to ingest user requests and, based on the request type, dispatch requests to the appropriate microservice for processing. The company is using Amazon API Gateway to deploy the API front end, and an AWS Lambda function that invokes Amazon DynamoDB to store user requests before dispatching them to the processing microservices. The company provisioned as much DynamoDB throughput as its budget allows, but the company is still experiencing availability issues and is losing user requests. What should a solutions architect do to address this issue without impacting existing users?

- A. Add throttling on the API Gateway with server-side throttling limits.
- B. Use DynamoDB Accelerator (DAX) and Lambda to buffer writes to DynamoDB.
- C. Create a secondary index in DynamoDB for the table with the user requests.
- D. Use the Amazon Simple Queue Service (Amazon SQS) queue and Lambda to buffer writes to DynamoDB.

Answer: D

Explanation:

By using an SQS queue and Lambda, the solutions architect can decouple the API front end from the processing microservices and improve the overall scalability and availability of the system. The SQS queue acts as a buffer, allowing the API front end to continue accepting user requests even if the processing microservices are experiencing high workloads or are temporarily unavailable. The Lambda function can then retrieve requests from the SQS queue and write them to DynamoDB, ensuring that all user requests are stored and processed. This approach allows the company to scale the processing microservices independently from the API front end, ensuring that the API remains available to users even during periods of high demand.

NEW QUESTION 117

- (Topic 2)

A company uses AWS Organizations to create dedicated AWS accounts for each business unit to manage each business unit's account independently upon request. The root email recipient missed a notification that was sent to the root user email address of one account. The company wants to ensure that all future notifications are not missed. Future notifications must be limited to account administrators. Which solution will meet these requirements?

- A. Configure the company's email server to forward notification email messages that are sent to the AWS account root user email address to all users in the organization.
- B. Configure all AWS account root user email addresses as distribution lists that go to a few administrators who can respond to alerts.
- C. Configure AWS account alternate contacts in the AWS Organizations console or programmatically.
- D. Configure all AWS account root user email messages to be sent to one administrator who is responsible for monitoring alerts and forwarding those alerts to the appropriate groups.
- E. Configure all existing AWS accounts and all newly created accounts to use the same root user email address.
- F. Configure AWS account alternate contacts in the AWS Organizations console or programmatically.

Answer: B

Explanation:

Use a group email address for the management account's root user https://docs.aws.amazon.com/organizations/latest/userguide/orgs_best-practices_mgmt-acct.html#best-practices_mgmt-acct_email-address

NEW QUESTION 121

- (Topic 2)

A gaming company has a web application that displays scores. The application runs on Amazon EC2 instances behind an Application Load Balancer. The application stores data in an Amazon RDS for MySQL database. Users are starting to experience long delays and interruptions that are caused by database read performance. The company wants to improve the user experience while minimizing changes to the application's architecture. What should a solutions architect do to meet these requirements?

- A. Use Amazon ElastiCache in front of the database.
- B. Use RDS Proxy between the application and the database.
- C. Migrate the application from EC2 instances to AWS Lambda.
- D. Migrate the database from Amazon RDS for MySQL to Amazon DynamoDB.

Answer: A

Explanation:

ElastiCache can help speed up the read performance of the database by caching frequently accessed data, reducing latency and allowing the application to access the data more quickly. This solution requires minimal modifications to the current architecture, as ElastiCache can be used in conjunction with the existing Amazon RDS for MySQL database.

NEW QUESTION 122

- (Topic 2)

A company has a service that produces event data. The company wants to use AWS to process the event data as it is received. The data is written in a specific order that must be maintained throughout processing. The company wants to implement a solution that minimizes operational overhead. How should a solutions architect accomplish this?

- A. Create an Amazon Simple Queue Service (Amazon SQS) FIFO queue to hold messages. Set up an AWS Lambda function to process messages from the queue.
- B. Create an Amazon Simple Notification Service (Amazon SNS) topic to deliver notifications containing payloads to process. Configure an AWS Lambda function as a subscriber.
- C. Create an Amazon Simple Queue Service (Amazon SQS) standard queue to hold message.
- D. Set up an AWS Lambda function to process messages from the queue independently.
- E. Create an Amazon Simple Notification Service (Amazon SNS) topic to deliver notifications containing payloads to process.
- F. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a subscriber.

Answer: A

Explanation:

The details are revealed in below url: <https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/FIFO-queues.html>
FIFO (First-In-First-Out) queues are designed to enhance messaging between applications when the order of operations and events is critical, or where duplicates can't be tolerated. Examples of situations where you might use FIFO queues include the following: To make sure that user-entered commands are run in the right order. To display the correct product price by sending price modifications in the right order. To prevent a student from enrolling in a course before registering for an account.

NEW QUESTION 124

- (Topic 2)

A company runs its ecommerce application on AWS. Every new order is published as a message in a RabbitMQ queue that runs on an Amazon EC2 instance in a single Availability Zone. These messages are processed by a different application that runs on a separate EC2 instance. This application stores the details in a PostgreSQL database on another EC2 instance. All the EC2 instances are in the same Availability Zone. The company needs to redesign its architecture to provide the highest availability with the least operational overhead. What should a solutions architect do to meet these requirements?

- A. Migrate the queue to a redundant pair (active/standby) of RabbitMQ instances on Amazon M
- B. Create a Multi-AZ Auto Scaling group (or EC2 instances that host the applicatio
- C. Create another Multi-AZ Auto Scaling group for EC2 instances that host the PostgreSQL database.
- D. Migrate the queue to a redundant pair (active/standby) of RabbitMQ instances on Amazon M
- E. Create a Multi-AZ Auto Scaling group for EC2 instances that host the applicatio
- F. Migrate the database to run on a Multi-AZ deployment of Amazon RDS for PostgreSQL.
- G. Create a Multi-AZ Auto Scaling group for EC2 instances that host the RabbitMQ queu
- H. Create another Multi-AZ Auto Scaling group for EC2 instances that host the application. Migrate the database to run on a Multi-AZ deployment of Amazon RDS for PostgreSQL.
- I. Create a Multi-AZ Auto Scaling group for EC2 instances that host the RabbitMQ queue. Create another Multi-AZ Auto Scaling group for EC2 instances that host the applicatio
- J. Create a third Multi-AZ Auto Scaling group for EC2 instances that host the PostgreSQL database.

Answer: B

Explanation:

Migrating to Amazon MQ reduces the overhead on the queue management. C and D are dismissed. Deciding between A and B means deciding to go for an Auto Scaling group for EC2 or an RDS for PostgreSQL (both multi-AZ). The RDS option has less operational impact, as provide as a service the tools and software required. Consider for instance, the effort to add an additional node like a read replica, to the DB. <https://docs.aws.amazon.com/amazon-mq/latest/developer-guide/active-standby-broker-deployment.html> <https://aws.amazon.com/rds/postgresql/>

NEW QUESTION 128

- (Topic 2)

A company's application is having performance issues. The application is stateful and needs to complete memory tasks on Amazon EC2 instances. The company used AWS CloudFormation to deploy infrastructure and used the M5 EC2 Instance family. As traffic increased, the application performance degraded. Users are reporting delays when they attempt to access the application. Which solution will resolve these issues in the MOST operationally efficient way?

- A. Replace the EC2 instances with T3 EC2 instances that run in an Auto Scaling group.

- B. Made the changes by using the AWS Management Console.
- C. Modify the CloudFormation templates to run the EC2 instances in an Auto Scaling group
- D. Increase the desired capacity and the maximum capacity of the Auto Scaling group manually when an increase is necessary
- E. Modify the CloudFormation template
- F. Replace the EC2 instances with R5 EC2 instance
- G. Use Amazon CloudWatch built-in EC2 memory metrics to track the application performance for future capacity planning.
- H. Modify the CloudFormation template
- I. Replace the EC2 instances with R5 EC2 instance
- J. Deploy the Amazon CloudWatch agent on the EC2 instances to generate custom application latency metrics for future capacity planning.

Answer: D

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/cloudwatch-memory-metrics-ec2/>

NEW QUESTION 132

- (Topic 2)

A company needs to retain application logs files for a critical application for 10 years. The application team regularly accesses logs from the past month for troubleshooting, but logs older than 1 month are rarely accessed. The application generates more than 10 TB of logs per month. Which storage option meets these requirements MOST cost-effectively?

- A. Store the logs in Amazon S3 Use AWS Backup to move logs more than 1 month old to S3 Glacier Deep Archive
- B. Store the logs in Amazon S3 Use S3 Lifecycle policies to move logs more than 1 month old to S3 Glacier Deep Archive
- C. Store the logs in Amazon CloudWatch Logs Use AWS Backup to move logs more than 1 month old to S3 Glacier Deep Archive
- D. Store the logs in Amazon CloudWatch Logs Use Amazon S3 Lifecycle policies to move logs more than 1 month old to S3 Glacier Deep Archive

Answer: B

Explanation:

You need S3 to be able to archive the logs after one month. Cannot do that with CloudWatch Logs.

NEW QUESTION 134

- (Topic 2)

A company wants to migrate its existing on-premises monolithic application to AWS.

The company wants to keep as much of the front- end code and the backend code as possible. However, the company wants to break the application into smaller applications. A different team will manage each application. The company needs a highly scalable solution that minimizes operational overhead. Which solution will meet these requirements?

- A. Host the application on AWS Lambda Integrate the application with Amazon API Gateway.
- B. Host the application with AWS Amplify
- C. Connect the application to an Amazon API Gateway API that is integrated with AWS Lambda.
- D. Host the application on Amazon EC2 instance
- E. Set up an Application Load Balancer with EC2 instances in an Auto Scaling group as targets.
- F. Host the application on Amazon Elastic Container Service (Amazon ECS) Set up an Application Load Balancer with Amazon ECS as the target.

Answer: D

Explanation:

<https://aws.amazon.com/blogs/compute/microservice-delivery-with-amazon-ecs-and-application-load-balancers/>

NEW QUESTION 139

- (Topic 2)

A solutions architect needs to implement a solution to reduce a company's storage costs. All the company's data is in the Amazon S3 Standard storage class. The company must keep all data for at least 25 years. Data from the most recent 2 years must be highly available and immediately retrievable. Which solution will meet these requirements?

- A. Set up an S3 Lifecycle policy to transition objects to S3 Glacier Deep Archive immediately.
- B. Set up an S3 Lifecycle policy to transition objects to S3 Glacier Deep Archive after 2 years.
- C. Use S3 Intelligent-Tiering
- D. Activate the archiving option to ensure that data is archived in S3 Glacier Deep Archive.
- E. Set up an S3 Lifecycle policy to transition objects to S3 One Zone-Infrequent Access (S3 One Zone-IA) immediately and to S3 Glacier Deep Archive after 2 years.

Answer: B

Explanation:

https://aws.amazon.com/about-aws/whats-new/2018/04/announcing-s3-one-zone-infrequent-access-a-new-amazon-s3-storage-class/?nc1=h_ls

NEW QUESTION 141

- (Topic 2)

A company wants to run applications in containers in the AWS Cloud. These applications are stateless and can tolerate disruptions within the underlying infrastructure. The company needs a solution that minimizes cost and operational overhead. What should a solutions architect do to meet these requirements?

- A. Use Spot Instances in an Amazon EC2 Auto Scaling group to run the application containers.
- B. Use Spot Instances in an Amazon Elastic Kubernetes Service (Amazon EKS) managed node group.
- C. Use On-Demand Instances in an Amazon EC2 Auto Scaling group to run the application containers.
- D. Use On-Demand Instances in an Amazon Elastic Kubernetes Service (Amazon EKS) managed node group.

Answer: A

Explanation:

<https://aws.amazon.com/cn/blogs/compute/cost-optimization-and-resilience-eks-with-spot-instances/>

NEW QUESTION 145

- (Topic 2)

A solutions architect needs to securely store a database user name and password that an application uses to access an Amazon RDS DB instance. The application that accesses the database runs on an Amazon EC2 instance. The solutions architect wants to create a secure parameter in AWS Systems Manager Parameter Store.

What should the solutions architect do to meet this requirement?

- A. Create an IAM role that has read access to the Parameter Store parameter
- B. Allow Decrypt access to an AWS Key Management Service (AWS KMS) key that is used to encrypt the parameter
- C. Assign this IAM role to the EC2 instance.
- D. Create an IAM policy that allows read access to the Parameter Store parameter
- E. Allow Decrypt access to an AWS Key Management Service (AWS KMS) key that is used to encrypt the parameter
- F. Assign this IAM policy to the EC2 instance.
- G. Create an IAM trust relationship between the Parameter Store parameter and the EC2 instance
- H. Specify Amazon RDS as a principal in the trust policy.
- I. Create an IAM trust relationship between the DB instance and the EC2 instance
- J. Specify Systems Manager as a principal in the trust policy.

Answer: B

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/reference_aws-services-that-work-with-iam.html

NEW QUESTION 149

- (Topic 2)

A company recently started using Amazon Aurora as the data store for its global ecommerce application. When large reports are run, developers report that the ecommerce application is performing poorly. After reviewing metrics in Amazon CloudWatch, a solutions architect finds that the ReadIOPS and CPU Utilization metrics are spiking when monthly reports run.

What is the MOST cost-effective solution?

- A. Migrate the monthly reporting to Amazon Redshift.
- B. Migrate the monthly reporting to an Aurora Replica
- C. Migrate the Aurora database to a larger instance class
- D. Increase the Provisioned IOPS on the Aurora instance

Answer: B

Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Replication.html>

#Aurora.Replication.Replicas Aurora Replicas have two main purposes. You can issue queries to them to scale the read operations for your application. You typically do so by connecting to the reader endpoint of the cluster. That way, Aurora can spread the load for read-only connections across as many Aurora Replicas as you have in the cluster. Aurora Replicas also help to increase availability. If the writer instance in a cluster becomes unavailable, Aurora automatically promotes one of the reader instances to take its place as the new writer. <https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Overview.html>

NEW QUESTION 150

- (Topic 2)

A company wants to migrate its MySQL database from on-premises to AWS. The company recently experienced a database outage that significantly impacted the business. To ensure this does not happen again, the company wants a reliable database solution on AWS that minimizes data loss and stores every transaction on at least two nodes.

Which solution meets these requirements?

- A. Create an Amazon RDS DB instance with synchronous replication to three nodes in three Availability Zones.
- B. Create an Amazon RDS MySQL DB instance with Multi-AZ functionality enabled to synchronously replicate the data.
- C. Create an Amazon RDS MySQL DB instance and then create a read replica in a separate AWS Region that synchronously replicates the data.
- D. Create an Amazon EC2 instance with a MySQL engine installed that triggers an AWS Lambda function to synchronously replicate the data to an Amazon RDS MySQL DB instance.

Answer: B

Explanation:

Q: What does Amazon RDS manage on my behalf?

Amazon RDS manages the work involved in setting up a relational database: from provisioning the infrastructure capacity you request to installing the database software. Once your database is up and running, Amazon RDS automates common administrative tasks such as performing backups and patching the software that powers your database. With optional Multi-AZ deployments, Amazon RDS also manages synchronous data replication across Availability Zones with automatic failover. <https://aws.amazon.com/rds/faqs/>

NEW QUESTION 154

- (Topic 2)

A company's website provides users with downloadable historical performance reports. The website needs a solution that will scale to meet the company's website demands globally. The solution should be cost-effective, limit the provisioning of infrastructure resources, and provide the fastest possible response time. Which combination should a solutions architect recommend to meet these requirements?

- A. Amazon CloudFront and Amazon S3
- B. AWS Lambda and Amazon DynamoDB

- C. Application Load Balancer with Amazon EC2 Auto Scaling
- D. Amazon Route 53 with internal Application Load Balancers

Answer: A

Explanation:

Cloudfront for rapid response and s3 to minimize infrastructure.

NEW QUESTION 155

- (Topic 2)

A company has implemented a self-managed DNS solution on three Amazon EC2 instances behind a Network Load Balancer (NLB) in the us-west-2 Region. Most of the company's users are located in the United States and Europe. The company wants to improve the performance and availability of the solution. The company launches and configures three EC2 instances in the eu-west-1 Region and adds the EC2 instances as targets for a new NLB.

Which solution can the company use to route traffic to all the EC2 instances?

- A. Create an Amazon Route 53 geolocation routing policy to route requests to one of the two NLB
- B. Create an Amazon CloudFront distributio
- C. Use the Route 53 record as the distribution's origin.
- D. Create a standard accelerator in AWS Global Accelerato
- E. Create endpoint groups in us- west-2 and eu-west-1. Add the two NLBs as endpoints for the endpoint groups.
- F. Attach Elastic IP addresses to the six EC2 instance
- G. Create an Amazon Route 53 geolocation routing policy to route requests to one of the six EC2 instance
- H. Create an Amazon CloudFront distributio
- I. Use the Route 53 record as the distribution's origin.
- J. Replace the two NLBs with two Application Load Balancers (ALBs). Create an Amazon Route 53 latency routing policy to route requests to one of the two ALB
- K. Create an Amazon CloudFront distributio
- L. Use the Route 53 record as the distribution's origin.

Answer: B

Explanation:

For standard accelerators, Global Accelerator uses the AWS global network to route traffic to the optimal regional endpoint based on health, client location, and policies that you configure, which increases the availability of your applications. Endpoints for standard accelerators can be Network Load Balancers, Application Load Balancers, Amazon EC2 instances, or Elastic IP addresses that are located in one AWS Region or multiple Regions.

<https://docs.aws.amazon.com/global-accelerator/latest/dg/what-is-global-accelerator.html>

NEW QUESTION 158

- (Topic 2)

A company is migrating an application from on-premises servers to Amazon EC2 instances. As part of the migration design requirements, a solutions architect must implement infrastructure metric alarms. The company does not need to take action if CPU utilization increases to more than 50% for a short burst of time. However, if the CPU

utilization increases to more than 50% and read IOPS on the disk are high at the same time, the company needs to act as soon as possible. The solutions architect also must reduce false alarms.

What should the solutions architect do to meet these requirements?

- A. Create Amazon CloudWatch composite alarms where possible.
- B. Create Amazon CloudWatch dashboards to visualize the metrics and react to issues quickly.
- C. Create Amazon CloudWatch Synthetics canaries to monitor the application and raise an alarm.
- D. Create single Amazon CloudWatch metric alarms with multiple metric thresholds where possible.

Answer: A

Explanation:

Composite alarms determine their states by monitoring the states of other alarms. You can **use composite alarms to reduce alarm noise**. For example, you can create a composite alarm where the underlying metric alarms go into ALARM when they meet specific conditions. You then can set up your composite alarm to go into ALARM and send you notifications when the underlying metric alarms go into ALARM by configuring the underlying metric alarms never to take actions.

Currently, composite alarms can take the following actions: https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/Create_Composite_Alarm.html

NEW QUESTION 161

- (Topic 3)

A company has hundreds of Amazon EC2 Linux-based instances in the AWS Cloud. Systems administrators have used shared SSH keys to manage the instances. After a recent audit, the company's security team is mandating the removal of all shared keys. A solutions architect must design a solution that provides secure access to the EC2 instances.

Which solution will meet this requirement with the LEAST amount of administrative overhead?

- A. Use AWS Systems Manager Session Manager to connect to the EC2 instances.
- B. Use AWS Security Token Service (AWS STS) to generate one-time SSH keys on demand.
- C. Allow shared SSH access to a set of bastion instance
- D. Configure all other instances to allow only SSH access from the bastion instances
- E. Use an Amazon Cognito custom authorizer to authenticate user
- F. Invoke an AWS Lambda function to generate a temporary SSH key.

Answer: A

Explanation:

Session Manager is a fully managed AWS Systems Manager capability. With Session Manager, you can manage your Amazon Elastic Compute Cloud (Amazon EC2) instances, edge devices, on-premises servers, and virtual machines (VMs). You can use either an interactive one-click browser-based shell or the AWS Command Line Interface (AWS CLI). Session Manager provides secure and auditable node management without the need to open inbound ports, maintain bastion hosts, or manage SSH keys. Session Manager also allows you to comply with corporate policies that require controlled access to managed nodes, strict security practices, and fully auditable logs with node access details, while providing end users with simple one-click cross-platform access to your managed nodes.

<https://docs.aws.amazon.com/systems-manager/latest/userguide/session-manager.html>

NEW QUESTION 166

- (Topic 3)

A telemarketing company is designing its customer call center functionality on AWS. The company needs a solution that provides multiple speaker recognition and generates transcript files. The company wants to query the transcript files to analyze the business patterns. The transcript files must be stored for 7 years for auditing purposes.

Which solution will meet these requirements?

- A. Use Amazon Recognition for multiple speaker recognition
- B. Store the transcript files in Amazon S3. Use machine learning models for transcript file analysis
- C. Use Amazon Transcribe for multiple speaker recognition
- D. Use Amazon Athena for transcript file analysis
- E. Use Amazon Translate for multiple speaker recognition
- F. Store the transcript files in Amazon Redshift. Use SQL queries for transcript file analysis
- G. Use Amazon Recognition for multiple speaker recognition
- H. Store the transcript files in Amazon S3. Use Amazon Textract for transcript file analysis

Answer: B

Explanation:

Amazon Transcribe now supports speaker labeling for streaming transcription. Amazon Transcribe is an automatic speech recognition (ASR) service that makes it easy for you to convert speech-to-text. In live audio transcription, each stream of audio may contain multiple speakers. Now you can conveniently turn on the ability to label speakers, thus helping to identify who is saying what in the output transcript. <https://aws.amazon.com/about-aws/whats-new/2020/08/amazon-transcribe-supports-speaker-labeling-streaming-transcription/>

NEW QUESTION 168

- (Topic 3)

A company wants to run an in-memory database for a latency-sensitive application that runs on Amazon EC2 instances. The application processes more than 100,000 transactions each minute and requires high network throughput. A solutions architect needs to provide a cost-effective network design that minimizes data transfer charges.

Which solution meets these requirements?

- A. Launch all EC2 instances in the same Availability Zone within the same AWS Region
- B. Specify a placement group with cluster strategy when launching EC2 instances.
- C. Launch all EC2 instances in different Availability Zones within the same AWS Region
- D. Specify a placement group with partition strategy when launching EC2 instances.
- E. Deploy an Auto Scaling group to launch EC2 instances in different Availability Zones based on a network utilization target.
- F. Deploy an Auto Scaling group with a step scaling policy to launch EC2 instances in different Availability Zones.

Answer: A

Explanation:

- Launching instances within a single AZ and using a cluster placement group provides the lowest network latency and highest bandwidth between instances. This maximizes performance for an in-memory database and high-throughput application.
- Communications between instances in the same AZ and placement group are free, minimizing data transfer charges. Inter-AZ and public IP traffic can incur charges.
- A cluster placement group enables the instances to be placed close together within the AZ, allowing the high network throughput required. Partition groups span AZs, reducing bandwidth.
- Auto Scaling across zones could launch instances in AZs that increase data transfer charges. It may reduce network throughput, impacting performance.

NEW QUESTION 173

- (Topic 3)

A company is using Amazon Route 53 latency-based routing to route requests to its UDP-based application for users around the world. The application is hosted on redundant servers in the company's on-premises data centers in the United States, Asia, and Europe. The company's compliance requirements state that the application must be hosted on-premises. The company wants to improve the performance and availability of the application.

What should a solutions architect do to meet these requirements?

- A. Configure three Network Load Balancers (NLBs) in the three AWS Regions to address the on-premises endpoints. Create an accelerator by using AWS Global Accelerator, and register the NLBs as its endpoint.
- B. Provide access to the application by using a CNAME that points to the accelerator DNS.
- C. Configure three Application Load Balancers (ALBs) in the three AWS Regions to address the on-premises endpoint.
- D. Create an accelerator by using AWS Global Accelerator and register the ALBs as its endpoints. Provide access to the application by using a CNAME that points to the accelerator DNS.
- E. Configure three Network Load Balancers (NLBs) in the three AWS Regions to address the on-premises endpoints. In Route 53, create a latency-based record that points to the three NLBs.
- F. Use it as an origin for an Amazon CloudFront distribution. Provide access to the application by using a CNAME that points to the CloudFront DNS.
- G. Configure three Application Load Balancers (ALBs) in the three AWS Regions to address the on-premises endpoints. In Route 53, create a latency-based record that points to the three ALBs and use it as an origin for an Amazon CloudFront distribution. Provide access to the application by using a CNAME that points to the CloudFront DNS.

Answer: A

Explanation:

[https://aws.amazon.com/step-functions/#:~:text=AWS%20Step%20Functions%20is%20a,machine%20learning%20\(ML\)%20pipelines.](https://aws.amazon.com/step-functions/#:~:text=AWS%20Step%20Functions%20is%20a,machine%20learning%20(ML)%20pipelines.)

"A common use case for AWS Step Functions is a task that requires human intervention (for example, an approval process). Step Functions makes it easy to coordinate the components of distributed applications as a series of steps in a visual workflow called a state machine. You can quickly build and run state machines to execute the steps of your application in a reliable and scalable fashion. (<https://aws.amazon.com/pt/blogs/compute/implementing-serverless-manual-approval-steps-in-aws-step-functions-and-amazon-api-gateway/>)"

NEW QUESTION 178

- (Topic 3)

An Amazon EC2 instance is located in a private subnet in a new VPC. This subnet does not have outbound internet access, but the EC2 instance needs the ability to download monthly security updates from an outside vendor.

What should a solutions architect do to meet these requirements?

- A. Create an internet gateway, and attach it to the VP
- B. Configure the private subnet route table to use the internet gateway as the default route.
- C. Create a NAT gateway, and place it in a public subne
- D. Configure the private subnet route table to use the NAT gateway as the default route.
- E. Create a NAT instance, and place it in the same subnet where the EC2 instance is locate
- F. Configure the private subnet route table to use the NAT instance as the default route.
- G. Create an internet gateway, and attach it to the VP
- H. Create a NAT instance, and place it in the same subnet where the EC2 instance is locate
- I. Configure the private subnet route table to use the internet gateway as the default route.

Answer: B**Explanation:**

This approach will allow the EC2 instance to access the internet and download the monthly security updates while still being located in a private subnet. By creating a NAT gateway and placing it in a public subnet, it will allow the instances in the private subnet to access the internet through the NAT gateway. And then, configure the private subnet route table to use the NAT gateway as the default route. This will ensure that all outbound traffic is directed through the NAT gateway, allowing the EC2 instance to access the internet while still maintaining the security of the private subnet.

NEW QUESTION 182

- (Topic 3)

A developer has an application that uses an AWS Lambda function to upload files to Amazon S3 and needs the required permissions to perform the task The developer already has an IAM user with valid IAM credentials required for Amazon S3

What should a solutions architect do to grant the permissions?

- A. Add required IAM permissions in the resource policy of the Lambda function
- B. Create a signed request using the existing IAM credentials n the Lambda function
- C. Create a new IAM user and use the existing IAM credentials in the Lambda function.
- D. Create an IAM execution role with the required permissions and attach the IAM rote to the Lambda function

Answer: D**Explanation:**

To grant the necessary permissions to an AWS Lambda function to upload files to Amazon S3, a solutions architect should create an IAM execution role with the required permissions and attach the IAM role to the Lambda function. This approach follows the principle of least privilege and ensures that the Lambda function can only access the resources it needs to perform its specific task.

NEW QUESTION 185

- (Topic 3)

A company has a multi-tier application deployed on several Amazon EC2 instances in an Auto Scaling group. An Amazon RDS for Oracle instance is the application's data layer that uses Oracle-specific

PL/SQL functions. Traffic to the application has been steadily increasing. This is causing the EC2 instances to become overloaded and the RDS instance to run out of storage. The Auto Scaling group does not have any scaling metrics and defines the minimum healthy instance count only. The company predicts that traffic will continue to increase at a steady but unpredictable rate before levelling off.

What should a solutions architect do to ensure the system can automatically scale for the increased traffic? (Select TWO.)

- A. Configure storage Auto Scaling on the RDS for Oracle Instance.
- B. Migrate the database to Amazon Aurora to use Auto Scaling storage.
- C. Configure an alarm on the RDS for Oracle Instance for low free storage space
- D. Configure the Auto Scaling group to use the average CPU as the scaling metric
- E. Configure the Auto Scaling group to use the average free memory as the seeing metric

Answer: AD**Explanation:**

Auto scaling storage RDS will ease storage issues and migrating Oracle PI/Sql to Aurora is cumbersome. Also Aurora has auto storage scaling by default.

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_PIOPS.StorageTypes.html#USER_PIOPS.Autoscaling

NEW QUESTION 187

- (Topic 3)

A company has an application that runs on several Amazon EC2 instances Each EC2 instance has multiple Amazon Elastic Block Store (Amazon EBS) data volumes attached to it The application's EC2 instance configuration and data need to be backed up nightly The application also needs to be recoverable in a different AWS Region

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

- A. Write an AWS Lambda function that schedules nightly snapshots of the application's EBS volumes and copies the snapshots to a different Region
- B. Create a backup plan by using AWS Backup to perform nightly backup
- C. Copy the backups to another Region Add the application's EC2 instances as resources
- D. Create a backup plan by using AWS Backup to perform nightly backups Copy the backups to another Region Add the application's EBS volumes as resources
- E. Write an AWS Lambda function that schedules nightly snapshots of the application's EBS volumes and copies the snapshots to a different Availability Zone

Answer: B**Explanation:**

The most operationally efficient solution to meet these requirements would be to create a backup plan by using AWS Backup to perform nightly backups and

copying the backups to another Region. Adding the application's EBS volumes as resources will ensure that the application's EC2 instance configuration and data are backed up, and copying the backups to another Region will ensure that the application is recoverable in a different AWS Region.

NEW QUESTION 191

- (Topic 3)

A company is experiencing sudden increases in demand. The company needs to provision large Amazon EC2 instances from an Amazon Machine image (AMI). The instances will run in an Auto Scaling group. The company needs a solution that provides minimum initialization latency to meet the demand. Which solution meets these requirements?

- A. Use the `aws ec2 register-image` command to create an AMI from a snapshot. Use AWS Step Functions to replace the AMI in the Auto Scaling group.
- B. Enable Amazon Elastic Block Store (Amazon EBS) fast snapshot restore on a snapshot. Provision an AMI by using the snapshot. Replace the AMI in the Auto Scaling group with the new AMI.
- C. Enable AMI creation and define lifecycle rules in Amazon Data Lifecycle Manager (Amazon DLM). Create an AWS Lambda function that modifies the AMI in the Auto Scaling group.
- D. Use Amazon EventBridge (Amazon CloudWatch Events) to invoke AWS Backup lifecycle policies that provision AMIs. Configure Auto Scaling group capacity limits as an event source in EventBridge.

Answer: B

Explanation:

Enabling Amazon Elastic Block Store (Amazon EBS) fast snapshot restore on a snapshot allows you to quickly create a new Amazon Machine Image (AMI) from a snapshot, which can help reduce the initialization latency when provisioning new instances. Once the AMI is provisioned, you can replace the AMI in the Auto Scaling group with the new AMI. This will ensure that new instances are launched from the updated AMI and are able to meet the increased demand quickly.

NEW QUESTION 194

- (Topic 3)

A solutions architect must migrate a Windows Internet Information Services (IIS) web application to AWS. The application currently relies on a file share hosted in the user's on-premises network-attached storage (NAS). The solutions architect has proposed migrating the MS web servers to Amazon EC2 instances in multiple Availability Zones that are connected to the storage solution, and configuring an Elastic Load Balancer attached to the instances. Which replacement to the on-premises file share is MOST resilient and durable?

- A. Migrate the file share to Amazon RDS
- B. Migrate the file share to AWS Storage Gateway
- C. Migrate the file share to Amazon FSx for Windows File Server
- D. Migrate the file share to Amazon Elastic File System (Amazon EFS)

Answer: C

Explanation:

This answer is correct because it provides a resilient and durable replacement for the on-premises file share that is compatible with Windows IIS web servers. Amazon FSx for Windows File Server is a fully managed service that provides shared file storage built on Windows Server. It supports the SMB protocol and integrates with Microsoft Active Directory, which enables seamless access and authentication for Windows-based applications. Amazon FSx for Windows File Server also offers the following benefits:

? **Resilience:** Amazon FSx for Windows File Server can be deployed in multiple

Availability Zones, which provides high availability and failover protection. It also supports automatic backups and restores, as well as self-healing features that detect and correct issues.

? **Durability:** Amazon FSx for Windows File Server replicates data within and across

Availability Zones, and stores data on highly durable storage devices. It also supports encryption at rest and in transit, as well as file access auditing and data deduplication.

? **Performance:** Amazon FSx for Windows File Server delivers consistent sub-

millisecond latencies and high throughput for file operations. It also supports SSD storage, native Windows features such as Distributed File System (DFS)

Namespaces and Replication, and user-driven performance scaling.

References:

? Amazon FSx for Windows File Server

? Using Microsoft Windows file shares

NEW QUESTION 195

- (Topic 3)

A transaction processing company has weekly scripted batch jobs that run on Amazon EC2 instances. The EC2 instances are in an Auto Scaling group. The number of transactions can vary but the baseline CPU utilization that is noted on each run is at least 60%. The company needs to provision the capacity 30 minutes before the jobs run.

Currently engineering complete this task by manually modifying the Auto Scaling group parameters. The company does not have the resources to analyze the required capacity trends for the Auto Scaling group counts. The company needs an automated way to modify the Auto Scaling group's capacity.

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

- A. Create a dynamic scaling policy for the Auto Scaling group.
- B. Configure the policy to scale based on the CPU utilization metric to 60%.
- C. Create a scheduled scaling policy for the Auto Scaling group.
- D. Set the appropriate desired capacity, minimum capacity, and maximum capacity.
- E. Set the recurrence to weekly.
- F. Set the start time to 30 minutes before the batch jobs run.
- G. Set the start time to 30 minutes before the batch jobs run.
- H. Create a predictive scaling policy for the Auto Scaling group.
- I. Configure the policy to scale based on forecast.
- J. Set the scaling metric to CPU utilization.
- K. Set the target value for the metric to 60%. In the Policy, set the instances to pre-launch 30 minutes before the jobs run.
- L. Create an Amazon EventBridge event to invoke an AWS Lambda function when the CPU utilization metric value for the Auto Scaling group reaches 60%. Configure the Lambda function to increase the Auto Scaling group's desired capacity and maximum capacity by 20%.

Answer: C

Explanation:

This option is the most efficient because it uses a predictive scaling policy for the Auto Scaling group, which is a type of scaling policy that uses machine learning to predict capacity requirements based on historical data from CloudWatch1. It also configures the policy to scale based on forecast, which enables the Auto Scaling group to adjust its capacity in advance of traffic changes. It also sets the scaling metric to CPU utilization and the target value for the metric to 60%, which aligns with the baseline CPU utilization that is

noted on each run. It also sets the instances to pre-launch 30 minutes before the jobs run, which ensures that enough capacity is provisioned before the weekly scripted batch jobs start. This solution meets the requirement of provisioning the capacity 30 minutes before the jobs run with the least operational overhead. Option A is less efficient because it uses a dynamic scaling policy for the Auto Scaling group, which is a type of scaling policy that adjusts your Auto Scaling group's capacity in response to changing demand2. However, this does not provide a way to provision the capacity 30 minutes before the jobs run, as it only reacts to changing traffic. Option B is less efficient because it uses a scheduled scaling policy for the Auto Scaling group, which is a type of scaling policy that lets you scale your Auto Scaling group based on a schedule that you create3. However, this does not provide a way to scale based on forecast or CPU utilization, as it only scales based on predefined metrics and policies. Option D is less efficient because it uses an Amazon EventBridge event to invoke an AWS Lambda function when the CPU utilization metric value for the Auto Scaling group reaches 60%, which is a way to trigger serverless functions based on events. However, this does not provide a way to provision the capacity 30 minutes before the jobs run, as it only reacts to changing traffic.

NEW QUESTION 200

- (Topic 3)

A company has a three-tier application on AWS that ingests sensor data from its users' devices. The traffic flows through a Network Load Balancer (NLB) then to Amazon EC2 instances for the web tier and finally to EC2 instances for the application tier. The application tier makes calls to a database. What should a solutions architect do to improve the security of the data in transit?

- A. Configure a TLS listener. Deploy the server certificate on the NLB.
- B. Configure AWS Shield Advanced. Enable AWS WAF on the NLB.
- C. Change the load balancer to an Application Load Balancer (ALB). Enable AWS WAF on the ALB.
- D. Encrypt the Amazon Elastic Block Store (Amazon EBS) volume on the EC2 instances by using AWS Key Management Service (AWS KMS).

Answer: A

Explanation:

The best option to improve the security of the data in transit is to configure a TLS listener and deploy the server certificate on the NLB. This will ensure that the data is encrypted and secure as it travels through the network. Additionally, you could also configure AWS Shield Advanced and enable AWS WAF on the NLB to further protect the network from malicious attacks. Alternatively, you could also change the load balancer to an Application Load Balancer (ALB) and enable AWS WAF on the ALB. Finally, you could also encrypt the Amazon Elastic Block Store (Amazon EBS) volume on the EC2 instances by using AWS Key Management Service (AWS KMS).

You must specify an SSL certificate for a TLS listener. The load balancer uses the certificate to terminate the connection and decrypt requests from clients before routing them to targets. <https://docs.aws.amazon.com/elasticloadbalancing/latest/network/create-listener.html>

NEW QUESTION 201

- (Topic 3)

A solutions architect needs to design a system to store client case files. The files are core company assets and are important. The number of files will grow over time.

The files must be simultaneously accessible from multiple application servers that run on Amazon EC2 instances. The solution must have built-in redundancy. Which solution meets these requirements?

- A. Amazon Elastic File System (Amazon EFS)
- B. Amazon Elastic Block Store (Amazon EBS)
- C. Amazon S3 Glacier Deep Archive
- D. AWS Backup

Answer: A

Explanation:

Amazon EFS provides a simple, scalable, fully managed file system that can be simultaneously accessed from multiple EC2 instances and provides built-in redundancy. It is optimized for multiple EC2 instances to access the same files, and it is designed to be highly available, durable, and secure. It can scale up to petabytes of data and can handle thousands of concurrent connections, and is a cost-effective solution for storing and accessing large amounts of data.

NEW QUESTION 202

- (Topic 3)

A company is running a critical business application on Amazon EC2 instances behind an Application Load Balancer. The EC2 instances run in an Auto Scaling group and access an Amazon RDS DB instance.

The design did not pass an operational review because the EC2 instances and the DB instance are all located in a single Availability Zone. A solutions architect must update the design to use a second Availability Zone. Which solution will make the application highly available?

- A. Provision a subnet in each Availability Zone. Configure the Auto Scaling group to distribute the EC2 instances across both Availability Zones. Configure the DB instance with connections to each network.
- B. Provision two subnets that extend across both Availability Zones. Configure the Auto Scaling group to distribute the EC2 instances across both Availability Zones. Configure the DB instance with connections to each network.
- C. Provision a subnet in each Availability Zone. Configure the Auto Scaling group to distribute the EC2 instances across both Availability Zones. Configure the DB instance for Multi-AZ deployment.
- D. Provision a subnet that extends across both Availability Zones. Configure the Auto Scaling group to distribute the EC2 instances across both Availability Zones. Configure the DB instance for Multi-AZ deployment.

Answer: C

Explanation:

<https://aws.amazon.com/vpc/faqs/#:~:text=Can%20a%20subnet%20span%20Availability,w ithin%20a%20single%20Availability%20Zone.>

NEW QUESTION 206

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