# SAP-C02 Dumps

# AWS Certified Solutions Architect - Professional

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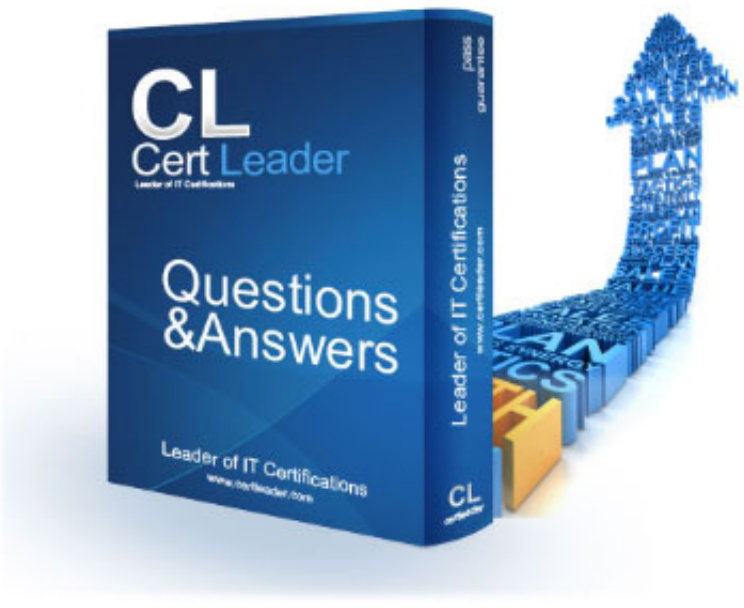

**NEW QUESTION 1**
- (Exam Topic 1)
A company is developing a new serverless API by using Amazon API Gateway and AWS Lambda. The company integrated the Lambda functions with API Gateway to use several shared libraries and custom classes.
A solutions architect needs to simplify the deployment of the solution and optimize for code reuse. Which solution will meet these requirements?

A. Deploy the shared libraries and custom classes into a Docker imag
B. Store the image in an S3 bucket.Create a Lambda layer that uses the Docker image as the sourc
C. Deploy the API's Lambda functions as Zip package
D. Configure the packages to use the Lambda layer.
E. Deploy the shared libraries and custom classes to a Docker imag
F. Upload the image to Amazon Elastic Container Registry (Amazon ECR). Create a Lambda layer that uses the Docker image as the sourc
G. Deploy the API's Lambda functions as Zip package
H. Configure the packages to use the Lambda layer.
I. Deploy the shared libraries and custom classes to a Docker container in Amazon Elastic Container Service (Amazon ECS) by using the AWS Fargate launch typ
J. Deploy the API's Lambda functions as Zip package
K. Configure the packages to use the deployed container as a Lambda layer.
L. Deploy the shared libraries, custom classes, and code for the API's Lambda functions to a Docker imag
M. Upload the image to Amazon Elastic Container Registry (Amazon ECR). Configure the API's Lambda functions to use the Docker image as the deployment package.

**Answer:** B

**Explanation:**
Deploying the shared libraries and custom classes to a Docker image and uploading the image to Amazon Elastic Container Registry (Amazon ECR) and creating a Lambda layer that uses the Docker image as the source. Then, deploying the API's Lambda functions as Zip packages and configuring the packages to use the Lambda layer would meet the requirements for simplifying the deployment and optimizing for code reuse.
A Lambda layer is a distribution mechanism for libraries, custom runtimes, and other function dependencies. It allows you to manage your in-development function code separately from your dependencies, this way you can easily update your dependencies without having to update your entire function code.
By deploying the shared libraries and custom classes to a Docker image and uploading the image to Amazon Elastic Container Registry (ECR), it makes it easy to manage and version the dependencies. This way, the company can use the same version of the dependencies across different Lambda functions.
By creating a Lambda layer that uses the Docker image as the source, the company can configure the API's Lambda functions to use the layer, reducing the need to include the dependencies in each function package, and making it easy to update the dependencies across all functions at once.
Reference:
AWS Lambda Layers documentation: https://docs.aws.amazon.com/lambda/latest/dg/configuration-layers.html
AWS Elastic Container Registry (ECR) documentation: https://aws.amazon.com/ecr/ Building Lambda Layers with Docker documentation: https://aws.amazon.com/blogs/compute/building-lambda-layers-with-docker/

**NEW QUESTION 2**
- (Exam Topic 1)
A company wants to migrate its data analytics environment from on premises to AWS The environment consists of two simple Node js applications One of the applications collects sensor data and loads it into a MySQL database The other application aggregates the data into reports When the aggregation jobs run. some of the load jobs fail to run correctly
The company must resolve the data loading issue The company also needs the migration to occur without interruptions or changes for the company's customers
What should a solutions architect do to meet these requirements?

A. Set up an Amazon Aurora MySQL database as a replication target for the on-premises database Create an Aurora Replica for the Aurora MySQL database, and move the aggregation jobs to run against the Aurora Replica Set up collection endpomts as AWS Lambda functions behind a Network Load Balancer (NLB). and use Amazon RDS Proxy to wnte to the Aurora MySQL database When the databases are synced disable the replication job and restart the Aurora Replica as the primary instanc
B. Point the collector DNS record to the NLB.
C. Set up an Amazon Aurora MySQL database Use AWS Database Migration Service (AWS DMS) to perform continuous data replication from the on-premises database to Aurora Move the aggregation jobs to run against the Aurora MySQL database Set up collection endpomts behind an Application Load Balancer (ALB) as Amazon EC2 instances in an Auto Scaling group When the databases are synced, point the collector DNS record to the ALB Disable the AWS DMS sync task after the cutover from on premises to AWS
D. Set up an Amazon Aurora MySQL database Use AWS Database Migration Service (AWS DMS) to perform continuous data replication from the on-premises database to Aurora Create an Aurora Replica for the Aurora MySQL database and move the aggregation jobs to run against the Aurora Replica Set up collection endpoints as AWS Lambda functions behind an Application Load Balancer (ALB) and use Amazon RDS Proxy to write to the Aurora MySQL database When the databases are synced, point the collector DNS record to the ALB Disable the AWS DMS sync task after the cutover from on premises to AWS
E. Set up an Amazon Aurora MySQL database Create an Aurora Replica for the Aurora MySQL database and move the aggregation jobs to run against the Aurora Replica Set up collection endpoints as an Amazon Kinesis data stream Use Amazon Kinesis Data Firehose to replicate the data to the Aurora MySQL database When the databases are synced disable the replication job and restart the Aurora Replica as the primary instance Point the collector DNS record to the Kinesis data stream.

**Answer:** C

**Explanation:**
Set up an Amazon Aurora MySQL database. Use AWS Database Migration Service (AWS DMS) to perform continuous data replication from the on-premises database to Aurora. Create an Aurora Replica for the Aurora MySQL database, and move the aggregation jobs to run against the Aurora Replica. Set up collection endpoints as AWS Lambda functions behind an Application Load Balancer (ALB), and use Amazon RDS Proxy to write to the Aurora MySQL database. When the databases are synced, point the collector DNS record to the ALB. Disable the AWS DMS sync task after the cutover from on premises to AWS.
Amazon RDS Proxy allows applications to pool and share connections established with the database, improving database efficiency and application scalability. With RDS Proxy, failover times for Aurora and RDS databases are reduced by up to 66%

**NEW QUESTION 3**
- (Exam Topic 1)
A company wants to change its internal cloud billing strategy for each of its business units. Currently, the cloud governance team shares reports for overall cloud spending with the head of each business unit. The company uses AWS Organizations lo manage the separate AWS accounts for each business unit. The existing tagging standard in Organizations includes the application, environment, and owner. The cloud governance team wants a centralized solution so each business

unit receives monthly reports on its cloud spending. The solution should also send notifications for any cloud spending that exceeds a set threshold.
Which solution is the MOST cost-effective way to meet these requirements?

A. Configure AWS Budgets in each account and configure budget alerts that are grouped by application, environment, and owne
B. Add each business unit to an Amazon SNS topic for each aler
C. Use Cost Explorer in each account to create monthly reports for each business unit.
D. Configure AWS Budgets in the organization's master account and configure budget alerts that are grouped by application, environment, and owne
E. Add each business unit to an Amazon SNS topic for each aler
F. Use Cost Explorer in the organization's master account to create monthly reports for each business unit.
G. Configure AWS Budgets in each account and configure budget alerts lhat are grouped by application, environment, and owne
H. Add each business unit to an Amazon SNS topic for each aler
I. Use the AWS Billing and Cost Management dashboard in each account to create monthly reports for each businessunit.
J. Enable AWS Cost and Usage Reports in the organization's master account and configure reports grouped by application, environment, and owne
K. Create an AWS Lambda function that processes AWS Cost and Usage Reports, sends budget alerts, and sends monthly reports to each business unit's email list.

**Answer:** B

**Explanation:**
Configure AWS Budgets in the organization€™s master account and configure budget alerts that are grouped by application, environment, and owner. Add each business unit to an Amazon SNS topic for each alert. Use Cost Explorer in the organization€™s master account to create monthly reports for each business unit.
https://aws.amazon.com/about-aws/whats-new/2019/07/introducing-aws-budgets-reports/#:~:text=AWS%20Bud

**NEW QUESTION 4**
- (Exam Topic 1)
A company is running an application in the AWS Cloud. The company's security team must approve the creation of all new IAM users. When a new IAM user is created, all access for the user must be removed automatically. The security team must then receive a notification to approve the user. The company has a multi-Region AWS CloudTrail trail In the AWS account.
Which combination of steps will meet these requirements? (Select THREE.)

A. Create an Amazon EventBridge (Amazon CloudWatch Events) rul
B. Define a pattern with the detail-type value set to AWS API Call via CloudTrail and an eventName of CreateUser.
C. Configure CloudTrail to send a notification for the CreateUser event to an Amazon Simple Notification Service (Amazon SNS) topic.
D. Invoke a container that runs in Amazon Elastic Container Service (Amazon ECS) with AWS Fargate technology to remove access
E. Invoke an AWS Step Functions state machine to remove access.
F. Use Amazon Simple Notification Service (Amazon SNS) to notify the security team.
G. Use Amazon Pinpoint to notify the security team.

**Answer:** ADE

**Explanation:**
https://docs.aws.amazon.com/prescriptive-guidance/latest/patterns/send-a-notification-when-an-iam-user-is-crea

**NEW QUESTION 5**
- (Exam Topic 1)
A software as a service (SaaS) based company provides a case management solution to customers A3 part of the solution. The company uses a standalone Simple Mail Transfer Protocol (SMTP) server to send email messages from an application. The application also stores an email template for acknowledgement email messages that populate customer data before the application sends the email message to the customer.
The company plans to migrate this messaging functionality to the AWS Cloud and needs to minimize operational overhead.
Which solution will meet these requirements MOST cost-effectively?

A. Set up an SMTP server on Amazon EC2 instances by using an AMI from the AWS Marketplac
B. Store the email template in an Amazon S3 bucke
C. Create an AWS Lambda function to retrieve the template from the S3 bucket and to merge the customer data from the application with the templat
D. Use an SDK in the Lambda function to send the email message.
E. Set up Amazon Simple Email Service (Amazon SES) to send email message
F. Store the email template in an Amazon S3 bucke
G. Create an AWS Lambda function to retrieve the template from the S3 bucket and to merge the customer data from the application with the templat
H. Use an SDK in the Lambda function to send the email message.
I. Set up an SMTP server on Amazon EC2 instances by using an AMI from the AWS Marketplac
J. Store the email template in Amazon Simple Email Service (Amazon SES) with parameters for the customer dat
K. Create an AWS Lambda function to call the SES template and to pass customer data to replace the parameter
L. Use the AWS Marketplace SMTP server to send the email message.
M. Set up Amazon Simple Email Service (Amazon SES) to send email message
N. Store the email template on Amazon SES with parameters for the customer dat
O. Create an AWS Lambda function to call the SendTemplatedEmail API operation and to pass customer data to replace the parameters and the email destination.

**Answer:** D

**Explanation:**
In this solution, the company can use Amazon SES to send email messages, which will minimize operational overhead as SES is a fully managed service that handles sending and receiving email messages. The company can store the email template on Amazon SES with parameters for the customer data and use an AWS Lambda function to call the SendTemplatedEmail API operation, passing in the customer data to replace the parameters and the email destination. This solution eliminates the need to set up and manage an SMTP server on EC2 instances, which can be costly and time-consuming.

**NEW QUESTION 6**
- (Exam Topic 1)
An international delivery company hosts a delivery management system on AWS. Drivers use the system to upload confirmation of delivery. Confirmation includes the recipient's signature or a photo of the package with the recipient. The driver's handheld device uploads signatures and photos through FTP to a single Amazon

EC2 instance. Each handheld device saves a file in a directory based on the signed-in user, and the file name matches the delivery number. The EC2 instance then adds metadata to the file after querying a central database to pull delivery information. The file is then placed in Amazon S3 for archiving.
As the company expands, drivers report that the system is rejecting connections. The FTP server is having problems because of dropped connections and memory issues. In response to these problems, a system engineer schedules a cron task to reboot the EC2 instance every 30 minutes. The billing team reports that files are not always in the archive and that the central system is not always updated.
A solutions architect needs to design a solution that maximizes scalability to ensure that the archive always receives the files and that systems are always updated. The handheld devices cannot be modified, so the company cannot deploy a new application.
Which solution will meet these requirements?

A. Create an AMI of the existing EC2 instanc
B. Create an Auto Scaling group of EC2 instances behind an Application Load Balance
C. Configure the Auto Scaling group to have a minimum of three instances.
D. Use AWS Transfer Family to create an FTP server that places the files in Amazon Elastic File System (Amazon EFS). Mount the EFS volume to the existing EC2 instanc
E. Point the EC2 instance to the new path for file processing.
F. Use AWS Transfer Family to create an FTP server that places the files in Amazon S3. Use an S3 event notification through Amazon Simple Notification Service (Amazon SNS) to invoke an AWS Lambda functio
G. Configure the Lambda function to add the metadata and update the delivery system.
H. Update the handheld devices to place the files directly in Amazon S3. Use an S3 event notification through Amazon Simple Queue Service (Amazon SQS) to invoke an AWS Lambda functio
I. Configure the Lambda function to add the metadata and update the delivery system.

**Answer:** C

**Explanation:**
Using AWS Transfer Family to create an FTP server that places the files in Amazon S3 and using S3 event notifications through Amazon Simple Notification Service (Amazon SNS) to invoke an AWS Lambda function will ensure that the archive always receives the files and that the central system is always updated. This solution maximizes scalability and eliminates the need for manual intervention, such as rebooting the EC2 instance.

**NEW QUESTION 7**
- (Exam Topic 1)
A company has migrated an application from on premises to AWS. The application frontend is a static website that runs on two Amazon EC2 instances behind an Application Load Balancer (ALB). The application backend is a Python application that runs on three EC2 instances behind another ALB. The EC2 instances are large, general purpose On-Demand Instances that were sized to meet the on-premises specifications for peak usage of the application.
The application averages hundreds of thousands of requests each month. However, the application is used mainly during lunchtime and receives minimal traffic during the rest of the day.
A solutions architect needs to optimize the infrastructure cost of the application without negatively affecting the application availability.
Which combination of steps will meet these requirements? (Choose two.)

A. Change all the EC2 instances to compute optimized instances that have the same number of cores as the existing EC2 instances.
B. Move the application frontend to a static website that is hosted on Amazon S3.
C. Deploy the application frontend by using AWS Elastic Beanstal
D. Use the same instance type for the nodes.
E. Change all the backend EC2 instances to Spot Instances.
F. Deploy the backend Python application to general purpose burstable EC2 instances that have the same number of cores as the existing EC2 instances.

**Answer:** BD

**Explanation:**
Moving the application frontend to a static website that is hosted on Amazon S3 will save cost as S3 is cheaper than running EC2 instances.
Using Spot instances for the backend EC2 instances will also save cost, as they are significantly cheaper than On-Demand instances. This will be suitable for the application, as it has minimal traffic during the rest of the day, and the availability of spot instances will not negatively affect the application's availability.
Reference:
Amazon S3 pricing: https://aws.amazon.com/s3/pricing/
Amazon EC2 Spot Instances documentation: https://aws.amazon.com/ec2/spot/ AWS Elastic Beanstalk documentation: https://aws.amazon.com/elasticbeanstalk/
Amazon Elastic Compute Cloud (EC2) pricing: https://aws.amazon.com/ec2/pricing/

**NEW QUESTION 8**
- (Exam Topic 1)
A software company hosts an application on AWS with resources in multiple AWS accounts and Regions. The application runs on a group of Amazon EC2 instances in an application VPC located in the us-east-1 Region with an IPv4 CIDR block of 10.10.0.0/16. In a different AWS account, a shared services VPC is located in the us-east-2 Region with an IPv4 CIDR block of 10.10.10.0/24. When a cloud engineer uses AWS CloudFormation to attempt to peer the application VPC with the shared services VPC, an error message indicates a peering failure. Which factors could cause this error? (Choose two.)

A. The IPv4 CIDR ranges of the two VPCs overlap
B. The VPCs are not in the same Region
C. One or both accounts do not have access to an Internet gateway
D. One of the VPCs was not shared through AWS Resource Access Manager
E. The IAM role in the peer accepter account does not have the correct permissions

**Answer:** AE

**Explanation:**
https://aws.amazon.com/about-aws/whats-new/2017/11/announcing-support-for-inter-region-vpc-peering/

**NEW QUESTION 9**
- (Exam Topic 1)
A company has a serverless application comprised of Amazon CloudFront, Amazon API Gateway, and AWS Lambda functions. The current deployment process of the application code is to create a new version number of the Lambda function and run an AWS CLI script to update. If the new function version has errors, another CLI script reverts by deploying the previous working version of the function. The company would like to decrease the time to deploy new versions of the

application logic provided by the Lambda functions, and also reduce the time to detect and revert when errors are identified.
How can this be accomplished?

A. Create and deploy nested AWS CloudFormation stacks with the parent stack consisting of the AWS CloudFront distribution and API Gateway, and the child stack containing the Lambda functio
B. For changes to Lambda, create an AWS CloudFormation change set and deploy; if errors are triggered, revert the AWS CloudFormation change set to the previous version.
C. Use AWS SAM and built-in AWS CodeDeploy to deploy the new Lambda version, gradually shift traffic to the new version, and use pre-traffic and post-traffic test functions to verify cod
D. Rollback if Amazon CloudWatch alarms are triggered.
E. Refactor the AWS CLI scripts into a single script that deploys the new Lambda versio
F. When deployment is completed, the script tests execut
G. If errors are detected, revert to the previous Lambda version.
H. Create and deploy an AWS CloudFormation stack that consists of a new API Gateway endpoint that references the new Lambda versio
I. Change the CloudFront origin to the new API Gateway endpoint, monitor errors and if detected, change the AWS CloudFront origin to the previous API Gateway endpoint.

**Answer:** B

**Explanation:**
https://aws.amazon.com/about-aws/whats-new/2017/11/aws-lambda-supports-traffic-shifting-and-phased-deploy

**NEW QUESTION 10**
- (Exam Topic 1)
A company is building a solution in the AWS Cloud. Thousands or devices will connect to the solution and send data. Each device needs to be able to send and receive data in real time over the MQTT protocol. Each device must authenticate by using a unique X.509 certificate.
Which solution will meet these requirements with the LEAST operational overhead?

A. Set up AWS IoT Cor
B. For each device, create a corresponding Amazon MQ queue and provision a certificat
C. Connect each device to Amazon MQ.
D. Create a Network Load Balancer (NLB) and configure it with an AWS Lambda authorize
E. Run an MQTT broker on Amazon EC2 instances in an Auto Scaling grou
F. Set the Auto Scaling group as the target for the NL
G. Connect each device to the NLB.
H. Set up AWS IoT Cor
I. For each device, create a corresponding AWS IoT thing and provision a certificat
J. Connect each device to AWS IoT Core.
K. Set up an Amazon API Gateway HTTP API and a Network Load Balancer (NLB). Create integration between API Gateway and the NL
L. Configure a mutual TLS certificate authorizer on the HTTP AP
M. Run an MQTT broker on an Amazon EC2 instance that the NLB target
N. Connect each device to the NLB.

**Answer:** D

**Explanation:**
This solution requires minimal operational overhead, as it only requires setting up AWS IoT Core and creating a thing for each device. (Reference: AWS Certified Solutions Architect - Professional Official Amazon Text Book, Page 537)
AWS IoT Core is a fully managed service that enables secure, bi-directional communication between internet-connected devices and the AWS Cloud. It supports the MQTT protocol and includes built-in device
authentication and access control. By using AWS IoT Core, the company can easily provision and manage the X.509 certificates for each device, and connect the devices to the service with minimal operational overhead.

**NEW QUESTION 10**
- (Exam Topic 1)
A company is migrating some of its applications to AWS. The company wants to migrate and modernize the applications quickly after it finalizes networking and security strategies. The company has set up an AWS Direct Connection connection in a central network account.
The company expects to have hundreds of AWS accounts and VPCs in the near future. The corporate network must be able to access the resources on AWS seamlessly and also must be able to communicate with all the VPCs. The company also wants to route its cloud resources to the internet through its on-premises data center.
Which combination of steps will meet these requirements? (Choose three.)

A. Create a Direct Connect gateway in the central accoun
B. In each of the accounts, create an association proposal by using the Direct Connect gateway and the account ID for every virtual private gateway.
C. Create a Direct Connect gateway and a transit gateway in the central network accoun
D. Attach the transit gateway to the Direct Connect gateway by using a transit VIF.
E. Provision an internet gatewa
F. Attach the internet gateway to subnet
G. Allow internet traffic through the gateway.
H. Share the transit gateway with other account
I. Attach VPCs to the transit gateway.
J. Provision VPC peering as necessary.
K. Provision only private subnet
L. Open the necessary route on the transit gateway and customer gatewayto allow outbound internet traffic from AWS to flow through NAT services that run in the data center.

**Answer:** BDF

**Explanation:**
Option A is incorrect because creating a Direct Connect gateway in the central account and creating an association proposal by using the Direct Connect

gateway and the account ID for every virtual private gateway does not enable active-passive failover between the regions. A Direct Connect gateway is a globally available resource that enables you to connect your AWS Direct Connect connection over a private virtual interface (VIF) to one or more VPCs in any AWS Region. A virtual private gateway is the VPN concentrator on the Amazon side of a VPN connection. You can associate a Direct Connect gateway with either a transit gateway or a virtual private gateway. However, a Direct Connect gateway does not provide any load balancing or failover capabilities by itself1

Option B is correct because creating a Direct Connect gateway and a transit gateway in the central network account and attaching the transit gateway to the Direct Connect gateway by using a transit VIF meets the requirement of enabling the corporate network to access the resources on AWS seamlessly and also to communicate with all the VPCs. A transit VIF is a type of private VIF that you can use to connect your AWS Direct Connect connection to a transit gateway or a Direct Connect gateway. A transit gateway is a network transit hub that you can use to interconnect your VPCs and on-premises networks. By using a transit VIF, you can route traffic between your on-premises network and multiple VPCs across different AWS accounts and Regions through a single connection23

Option C is incorrect because provisioning an internet gateway, attaching the internet gateway to subnets, and allowing internet traffic through the gateway does not meet the requirement of routing cloud resources to the internet through its on-premises data center. An internet gateway is a horizontally scaled, redundant, and highly available VPC component that allows communication between your VPC and the internet. An internet gateway serves two purposes: to provide a target in your VPC route tables for internet-routable traffic, and to perform network address translation (NAT) for instances that have been assigned public IPv4 addresses. By using an internet gateway, you are routing cloud resources directly to the internet, not through your on-premises data center.

Option D is correct because sharing the transit gateway with other accounts and attaching VPCs to the transit gateway meets the requirement of enabling the corporate network to access the resources on AWS seamlessly and also to communicate with all the VPCs. You can share your transit gateway with other AWS accounts within the same organization by using AWS Resource Access Manager (AWS RAM). This allows you to centrally manage connectivity from multiple accounts without having to create individual peering connections between VPCs or duplicate network appliances in each account. You can attach VPCs from different accounts and Regions to your shared transit gateway and enable routing between them.

Option E is incorrect because provisioning VPC peering as necessary does not meet the requirement of enabling the corporate network to access the resources on AWS seamlessly and also to communicate with all the VPCs. VPC peering is a networking connection between two VPCs that enables you to route traffic between them using private IPv4 addresses or IPv6 addresses. You can create a VPC peering connection between your own VPCs, or with a VPC in another AWS account within a single Region. However, VPC peering does not allow you to route traffic from your on-premises network to your VPCs or between multiple Regions. You would need to create multiple VPN connections or Direct Connect connections for each VPC peering connection, which increases operational complexity and costs.

Option F is correct because provisioning only private subnets, opening the necessary route on the transit gateway and customer gateway to allow outbound internet traffic from AWS to flow through NAT services that run in the data center meets the requirement of routing cloud resources to the internet through its on-premises data center. A private subnet is a subnet that's associated with a route table that has no route to an internet gateway. Instances in a private subnet can communicate with other instances in the same VPC but cannot access resources on the internet directly. To enable outbound internet access from instances in private subnets, you can use NAT devices such as NAT gateways or NAT instances that are deployed in public subnets. A public subnet is a subnet that's associated with a route table that has a route to an internet gateway. Alternatively, you can use your on-premises data center as a NAT device by configuring routes on your transit gateway and customer gateway that direct outbound internet traffic from your private subnets through your VPN connection or Direct Connect connection. This way, you can route cloud resources to the internet through your on-premises data center instead of using an internet gateway.
References: 1:
https://docs.aws.amazon.com/directconnect/latest/UserGuide/direct-connect-gateways-intro.html 2:
https://docs.aws.amazon.com/directconnect/latest/UserGuide/direct-connect-transit-virtual-interfaces.html 3: https://docs.aws.amazon.com/vpc/latest/tgw/what-is-transit-gateway.html : https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Internet_Gateway.html : https://docs.aws.amazon.com/vpc/latest/tgw/tgw-sharing.html : https://docs.aws.amazon.com/vpc/latest/peering/what-is-vpc-peering.html : https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Scenario2.html : https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Scenario3.html : https://docs.aws.amazon.com/vpc/latest/userguide/VPC_NAT_Instance.html : https://docs.aws.amazon.com/vpc/latest/userguide/VPC_NAT_Gateway.html

**NEW QUESTION 11**
- (Exam Topic 1)
A company is running an application in the AWS Cloud. The application runs on containers in an Amazon Elastic Container Service (Amazon ECS) cluster. The ECS tasks use the Fargate launch type. The application's data is relational and is stored in Amazon Aurora MySQL. To meet regulatory requirements, the application must be able to recover to a separate AWS Region in the event of an application failure. In case of a failure, no data can be lost. Which solution will meet these requirements with the LEAST amount of operational overhead?

A. Provision an Aurora Replica in a different Region.
B. Set up AWS DataSync for continuous replication of the data to a different Region.
C. Set up AWS Database Migration Service (AWS DMS) to perform a continuous replication of the data to a different Region.
D. Use Amazon Data Lifecycle Manager {Amazon DLM) to schedule a snapshot every 5 minutes.

**Answer:** A

**Explanation:**
Provision an Aurora Replica in a different Region will meet the requirement of the application being able to recover to a separate AWS Region in the event of an application failure, and no data can be lost, with the least amount of operational overhead.

**NEW QUESTION 12**
- (Exam Topic 1)
A software company has deployed an application that consumes a REST API by using Amazon API Gateway. AWS Lambda functions, and an Amazon DynamoDB table. The application is showing an increase in the number of errors during PUT requests. Most of the PUT calls come from a small number of clients that are authenticated with specific API keys.
A solutions architect has identified that a large number of the PUT requests originate from one client. The API is noncritical, and clients can tolerate retries of unsuccessful calls. However, the errors are displayed to customers and are causing damage to the API's reputation.
What should the solutions architect recommend to improve the customer experience?

A. Implement retry logic with exponential backoff and irregular variation in the client applicatio
B. Ensure that the errors are caught and handled with descriptive error messages.
C. Implement API throttling through a usage plan at the API Gateway leve
D. Ensure that the client application handles code 429 replies without error.
E. Turn on API caching to enhance responsiveness for the production stag
F. Run 10-minute load tests.Verify that the cache capacity is appropriate for the workload.
G. Implement reserved concurrency at the Lambda function level to provide the resources that are needed during sudden increases in traffic.

**Answer:** B

**Explanation:**
https://aws.amazon.com/premiumsupport/knowledge-center/aws-batch-requests-error/ https://aws.amazon.com/premiumsupport/knowledge-center/api-gateway-429-limit/

**NEW QUESTION 17**
- (Exam Topic 1)
A company is running an application on several Amazon EC2 instances in an Auto Scaling group behind an Application Load Balancer. The load on the application varies throughout the day, and EC2 instances are scaled in and out on a regular basis. Log files from the EC2 instances are copied to a central Amazon S3 bucket every 15 minutes. The security team discovers that log files are missing from some of the terminated EC2 instances.
Which set of actions will ensure that log files are copied to the central S3 bucket from the terminated EC2 instances?

A. Create a script to copy log files to Amazon S3, and store the script in a file on the EC2 instanc
B. Create an Auto Scaling lifecycle hook and an Amazon EventBridge (Amazon CloudWatch Events) rule to detect lifecycle events from the Auto Scaling grou
C. Invoke an AWS Lambda function on the autoscaling:EC2_INSTANCE_TERMINATING transition to send ABANDON to the Auto Scaling group to prevent termination, run the script to copy the log files, and terminate the instance using the AWS SDK.
D. Create an AWS Systems Manager document with a script to copy log files to Amazon S3. Create an Auto Scaling lifecycle hook and an Amazon EventBridge (Amazon CloudWatch Events) rule to detect lifecycle events from the Auto Scaling grou
E. Invoke an AWS Lambda function on the autoscaling:EC2_INSTANCE_TERMINATING transition to call the AWS Systems Manager API SendCommand operation to run the document to copy the log files and send CONTINUE to the Auto Scaling group to terminate the instance.
F. Change the log delivery rate to every 5 minute
G. Create a script to copy log files to Amazon S3, and add the script to EC2 instance user dat
H. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to detect EC2 instance terminatio
I. Invoke an AWS Lambda function from the EventBridge (CloudWatch Events) rule that uses the AWS CLI to run the user-data script to copy the log files and terminate the instance.
J. Create an AWS Systems Manager document with a script to copy log files to Amazon S3. Create an Auto Scaling lifecycle hook that publishes a message to an Amazon Simple Notification Service (Amazon SNS) topi
K. From the SNS notification, call the AWS Systems Manager API SendCommand operation to run the document to copy the log files and send ABANDON to the Auto Scaling group to terminate the instance.

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/autoscaling/ec2/userguide/adding-lifecycle-hooks.html
- Refer to Default Result section - If the instance is terminating, both abandon and continue allow the instance to terminate. However, abandon stops any remaining actions, such as other lifecycle hooks, and continue allows any other lifecycle hooks to complete.
https://aws.amazon.com/blogs/infrastructure-and-automation/run-code-before-terminating-an-ec2-auto-scaling-i https://github.com/aws-samples/aws-lambda-lifecycle-hooks-function
https://github.com/aws-samples/aws-lambda-lifecycle-hooks-function/blob/master/cloudformation/template.yam

**NEW QUESTION 20**
- (Exam Topic 1)
A company wants to migrate to AWS. The company wants to use a multi-account structure with centrally managed access to all accounts and applications. The company also wants to keep the traffic on a private network. Multi-factor authentication (MFA) is required at login, and specific roles are assigned to user groups. The company must create separate accounts for development. staging, production, and shared network. The production account and the shared network account must have connectivity to all accounts. The development account and the staging account must have access only to each other.
Which combination of steps should a solutions architect take 10 meet these requirements? (Choose three.)

A. Deploy a landing zone environment by using AWS Control Towe
B. Enroll accounts and invite existing accounts into the resulting organization in AWS Organizations.
C. Enable AWS Security Hub in all accounts to manage cross-account acces
D. Collect findings through AWS CloudTrail to force MFA login.
E. Create transit gateways and transit gateway VPC attachments in each accoun
F. Configure appropriate route tables.
G. Set up and enable AWS IAM Identity Center (AWS Single Sign-On). Create appropriate permission sets with required MFA for existing accounts.
H. Enable AWS Control Tower in all Recounts to manage routing between account
I. Collect findings through AWS CloudTrail to force MFA login.
J. Create IAM users and group
K. Configure MFA for all user
L. Set up Amazon Cognito user pools andidentity pools to manage access to accounts and between accounts.

**Answer:** ACD

**Explanation:**
The correct answer would be options A, C and D, because they address the requirements outlined in the question. A. Deploying a landing zone environment using AWS Control Tower and enrolling accounts in an organization in AWS Organizations allows for a centralized management of access to all accounts and applications. C. Creating transit gateways and transit gateway VPC attachments in each account and configuring appropriate route tables allows for private network traffic, and ensures that the production account and shared network account have connectivity to all accounts, while the development and staging accounts have access only to each other. D. Setting up and enabling AWS IAM Identity Center (AWS Single Sign-On) and creating appropriate permission sets with required MFA for existing accounts allows for multi-factor authentication at login and specific roles to be assigned to user groups.

**NEW QUESTION 25**
- (Exam Topic 1)
A company has an organization in AWS Organizations that has a large number of AWS accounts. One of the AWS accounts is designated as a transit account and has a transit gateway that is shared with all of the other AWS accounts AWS Site-to-Site VPN connections are configured between ail of the company's global offices and the transit account The company has AWS Config enabled on all of its accounts.
The company's networking team needs to centrally manage a list of internal IP address ranges that belong to the global offices Developers Will reference this list to gain access to applications securely.
Which solution meets these requirements with the LEAST amount of operational overhead?

A. Create a JSON file that is hosted in Amazon S3 and that lists all of the internal IP address ranges Configure an Amazon Simple Notification Service (Amazon

SNS) topic in each of the accounts that can be involved when the JSON file is update
B. Subscribe an AWS Lambda function to the SNS topic to update all relevant security group rules with Vie updated IP address ranges.
C. Create a new AWS Config managed rule that contains all of the internal IP address ranges Use the rule to check the security groups in each of the accounts to ensure compliance with the list of IP address range
D. Configure the rule to automatically remediate any noncompliant security group that is detected.
E. In the transit account, create a VPC prefix list with all of the internal IP address range
F. Use AWS Resource Access Manager to share the prefix list with all of the other account
G. Use the shared prefix list to configure security group rules is the other accounts.
H. In the transit account create a security group with all of the internal IP address range
I. Configure the security groups in me other accounts to reference the transit account's securitygroup by using a nested security group reference of *<transit-account-id>./sg-1a2b3c4d".

**Answer:** C

**Explanation:**
Customer-managed prefix lists — Sets of IP address ranges that you define and manage. You can share your prefix list with other AWS accounts, enabling those accounts to reference the prefix list in their own resources. https://docs.aws.amazon.com/vpc/latest/userguide/managed-prefix-lists.html
a VPC prefix list is created in the transit account with all of the internal IP address ranges, and then shared to all of the other accounts using AWS Resource Access Manager. This allows for central management of the IP address ranges, and eliminates the need for manual updates to security group rules in each account. This solution also allows for compliance checks to be run using AWS Config and for any non-compliant security groups to be automatically remediated.

**NEW QUESTION 26**
- (Exam Topic 1)
A company has an application that runs on Amazon EC2 instances. A solutions architect is designing VPC infrastructure in an AWS Region where the application needs to access an Amazon Aurora DB cluster. The EC2 instances are all associated with the same security group. The DB cluster is associated with its own security group.
The solutions architect needs to add rules to the security groups to provide the application with least privilege access to the DB cluster.
Which combination of steps will meet these requirements? (Select TWO.)

A. Add an inbound rule to the EC2 instances' security grou
B. Specify the DB cluster's security group as the source over the default Aurora port.
C. Add an outbound rule to the EC2 instances' security grou
D. Specify the DB cluster's security group as the destination over the default Aurora port.
E. Add an inbound rule to the DB cluster's security grou
F. Specify the EC2 instances' security group as the source over the default Aurora port.
G. Add an outbound rule to the DB cluster's security grou
H. Specify the EC2 instances' security group as the destination over the default Aurora port.
I. Add an outbound rule to the DB cluster's security grou
J. Specify the EC2 instances' security group as the destination over the ephemeral ports.

**Answer:** AB

**Explanation:**
* B. Add an outbound rule to the EC2 instances' security group. Specify the DB cluster's security group as the destination over the default Aurora port. This allows the instances to make outbound connections to the DB cluster on the default Aurora port. C. Add an inbound rule to the DB cluster's security group. Specify the EC2 instances' security group as the source over the default Aurora port. This allows connections to the DB cluster from the EC2 instances on the default Aurora port.

**NEW QUESTION 29**
- (Exam Topic 1)
A solutions architect has developed a web application that uses an Amazon API Gateway Regional endpoint and an AWS Lambda function. The consumers of the web application are all close to the AWS Region where the application will be deployed. The Lambda function only queries an Amazon Aurora MySQL database. The solutions architect has configured the database to have three read replicas.
During testing, the application does not meet performance requirements. Under high load, the application opens a large number of database connections. The solutions architect must improve the application's performance.
Which actions should the solutions architect take to meet these requirements? (Choose two.)

A. Use the cluster endpoint of the Aurora database.
B. Use RDS Proxy to set up a connection pool to the reader endpoint of the Aurora database.
C. Use the Lambda Provisioned Concurrency feature.
D. Move the code for opening the database connection in the Lambda function outside of the event handler.
E. Change the API Gateway endpoint to an edge-optimized endpoint.

**Answer:** BD

**Explanation:**
Connect to RDS outside of Lambda handler method to improve performance https://awstut.com/en/2022/04/30/connect-to-rds-outside-of-lambda-handler-method-to-improve-performance-en
Using RDS Proxy, you can handle unpredictable surges in database traffic. Otherwise, these surges might cause issues due to oversubscribing connections or creating new connections at a fast rate. RDS Proxy establishes a database connection pool and reuses connections in this pool. This approach avoids the memory and CPU overhead of opening a new database connection each time. To protect the database against oversubscription, you can control the number of database connections that are created. https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/rds-proxy.html

**NEW QUESTION 32**
- (Exam Topic 1)
A life sciences company is using a combination of open source tools to manage data analysis workflows and Docker containers running on servers in its on-premises data center to process genomics data Sequencing data is generated and stored on a local storage area network (SAN), and then the data is processed.
The research and development teams are running into capacity issues and have decided to re-architect their genomics analysis platform on AWS to scale based on workload demands and reduce the turnaround time from weeks to days
The company has a high-speed AWS Direct Connect connection Sequencers will generate around 200 GB of data for each genome, and individual jobs can take

several hours to process the data with ideal compute capacity. The end result will be stored in Amazon S3. The company is expecting 10-15 job requests each day
Which solution meets these requirements?

A. Use regularly scheduled AWS Snowball Edge devices to transfer the sequencing data into AWS When AWS receives the Snowball Edge device and the data is loaded into Amazon S3 use S3 events to trigger an AWS Lambda function to process the data
B. Use AWS Data Pipeline to transfer the sequencing data to Amazon S3 Use S3 events to trigger an Amazon EC2 Auto Scaling group to launch custom-AMI EC2 instances running the Docker containers to process the data
C. Use AWS DataSync to transfer the sequencing data to Amazon S3 Use S3 events to trigger an AWS Lambda function that starts an AWS Step Functions workflow Store the Docker images in Amazon Elastic Container Registry (Amazon ECR) and trigger AWS Batch to run the container and process the sequencing data
D. Use an AWS Storage Gateway file gateway to transfer the sequencing data to Amazon S3 Use S3 events to trigger an AWS Batch job that runs on Amazon EC2 instances running the Docker containers to process the data

**Answer:** C

**Explanation:**
AWS DataSync can be used to transfer the sequencing data to Amazon S3, which is a more efficient and faster method than using Snowball Edge devices. Once the data is in S3, S3 events can trigger an AWS Lambda function that starts an AWS Step Functions workflow. The Docker images can be stored in Amazon Elastic Container Registry (Amazon ECR) and AWS Batch can be used to run the container and process the sequencing data.

**NEW QUESTION 36**
- (Exam Topic 1)
A company is planning to migrate its business-critical applications from an on-premises data center to AWS. The company has an on-premises installation of a Microsoft SQL Server Always On cluster. The company wants to migrate to an AWS managed database service. A solutions architect must design a heterogeneous database migration on AWS.
Which solution will meet these requirements?

A. Migrate the SQL Server databases to Amazon RDS for MySQL by using backup and restore utilities.
B. Use an AWS Snowball Edge Storage Optimized device to transfer data to Amazon S3. Set up Amazon RDS for MySQ
C. Use S3 integration with SQL Server features, such as BULK INSERT.
D. Use the AWS Schema Conversion Tool to translate the database schema to Amazon RDS for MeSQ
E. Then use AWS Database Migration Service (AWS DMS) to migrate the data from on-premises databases to Amazon RDS.
F. Use AWS DataSync to migrate data over the network between on-premises storage and Amazon S3. Set up Amazon RDS for MySQ
G. Use S3 integration with SQL Server features, such as BULK INSERT.

**Answer:** C

**Explanation:**
https://aws.amazon.com/dms/schema-conversion-tool/
AWS Schema Conversion Tool (SCT) can automatically convert the database schema from Microsoft SQL Server to Amazon RDS for MySQL. This allows for a smooth transition of the database schema without any manual intervention. AWS DMS can then be used to migrate the data from the on-premises databases to the newly created Amazon RDS for MySQL instance. This service can perform a one-time migration of the data or can set up ongoing replication of data changes to keep the on-premises and AWS databases in sync.

**NEW QUESTION 37**
- (Exam Topic 1)
A company has developed APIs that use Amazon API Gateway with Regional endpoints. The APIs call AWS Lambda functions that use API Gateway authentication mechanisms. After a design review, a solutions architect identifies a set of APIs that do not require public access.
The solutions architect must design a solution to make the set of APIs accessible only from a VPC. All APIs need to be called with an authenticated user.
Which solution will meet these requirements with the LEAST amount of effort?

A. Create an internal Application Load Balancer (ALB). Create a target grou
B. Select the Lambda function to cal
C. Use the ALB DNS name to call the API from the VPC.
D. Remove the DNS entry that is associated with the API in API Gatewa
E. Create a hosted zone in Amazon Route 53. Create a CNAME record in the hosted zon
F. Update the API in API Gateway with the CNAME recor
G. Use the CNAME record to call the API from the VPC.
H. Update the API endpoint from Regional to private in API Gatewa
I. Create an interface VPC endpoint in the VP
J. Create a resource policy, and attach it to the AP
K. Use the VPC endpoint to call the API from the VPC.
L. Deploy the Lambda functions inside the VP
M. Provision an EC2 instance, and install an Apache server.From the Apache server, call the Lambda function
N. Use the internal CNAME record of the EC2 instance to call the API from the VPC.

**Answer:** C

**Explanation:**
This solution requires the least amount of effort as it only requires to update the API endpoint to private in API Gateway and create an interface VPC endpoint. Then create a resource policy and attach it to the API. This will make the API only accessible from the VPC and still keep the authentication mechanism intact.
Reference:
https://aws.amazon.com/api-gateway/features/

**NEW QUESTION 41**
- (Exam Topic 1)
A company gives users the ability to upload images from a custom application. The upload process invokes an AWS Lambda function that processes and stores the image in an Amazon S3 bucket. The application invokes the Lambda function by using a specific function version ARN.
The Lambda function accepts image processing parameters by using environment variables. The company often adjusts the environment variables of the Lambda

function to achieve optimal image processing output. The company tests different parameters and publishes a new function version with the updated environment variables after validating results. This update process also requires frequent changes to the custom application to invoke the new function version ARN. These changes cause interruptions for users.
A solutions architect needs to simplify this process to minimize disruption to users. Which solution will meet these requirements with the LEAST operational overhead?

A. Directly modify the environment variables of the published Lambda function versio
B. Use theSLATEST version to test image processing parameters.
C. Create an Amazon DynamoDB table to store the image processing parameter
D. Modify the Lambda function to retrieve the image processing parameters from the DynamoDB table.
E. Directly code the image processing parameters within the Lambda function and remove the environment variable
F. Publish a new function version when the company updates the parameters.
G. Create a Lambda function alia
H. Modify the client application to use the function alias AR
I. Reconfigure the Lambda alias to point to new versions of the function when the company finishes testing.

**Answer:** D

**Explanation:**
A Lambda function alias allows you to point to a specific version of a function and also can be updated to point to a new version of the function without modifying the client application. This way, the company can test different versions of the function with different environment variables and, once the optimal parameters are found, update the alias to point to the new version, without the need to update the client application.
By using this approach, the company can simplify the process of updating the environment variables, minimize disruption to users, and reduce the operational overhead.
Reference:
AWS Lambda documentation: https://aws.amazon.com/lambda/
AWS Lambda Aliases documentation: https://docs.aws.amazon.com/lambda/latest/dg/aliases-intro.html AWS Lambda versioning and aliases documentation: https://aws.amazon.com/blogs/compute/versioning-aliases-in-aws-lambda/

**NEW QUESTION 44**
- (Exam Topic 1)
A retail company is hosting an ecommerce website on AWS across multiple AWS Regions. The company wants the website to be operational at all times for online purchases. The website stores data in an Amazon RDS for MySQL DB instance.
Which solution will provide the HIGHEST availability for the database?

A. Configure automated backups on Amazon RD
B. In the case of disruption, promote an automated backup to be a standalone DB instanc
C. Direct database traffic to the promoted DB instanc
D. Create a replacement read replica that has the promoted DB instance as its source.
E. Configure global tables and read replicas on Amazon RD
F. Activate the cross-Region scop
G. In the case of disruption, use AWS Lambda to copy the read replicas from one Region to another Region.
H. Configure global tables and automated backups on Amazon RD
I. In the case of disruption, use AWS Lambda to copy the read replicas from one Region to another Region.
J. Configure read replicas on Amazon RD
K. In the case of disruption, promote a cross-Region and read replica to be a standalone DB instanc
L. Direct database traffic to the promoted DB instanc
M. Create areplacement read replica that has the promoted DB instance as its source.

**Answer:** D

**Explanation:**
This solution will provide the highest availability for the database, as the read replicas will allow the database to be available in multiple Regions, thus reducing the chances of disruption. Additionally, the promotion of the cross-Region read replica to become a standalone DB instance will ensure that the database is still available even if one of the Regions experiences disruptions.

**NEW QUESTION 48**
- (Exam Topic 1)
A company uses Amazon S3 to store files and images in a variety of storage classes. The company's S3 costs have increased substantially during the past year.
A solutions architect needs to review data trends for the past 12 months and identity the appropriate storage class for the objects.
Which solution will meet these requirements?

A. Download AWS Cost and Usage Reports for the last 12 months of S3 usag
B. Review AWS Trusted Advisor recommendations for cost savings.
C. Use S3 storage class analysi
D. Import data trends into an Amazon QuickSight dashboard to analyze storage trends.
E. Use Amazon S3 Storage Len
F. Upgrade the default dashboard to include advanced metrics for storage trends.
G. Use Access Analyzer for S3. Download the Access Analyzer for S3 report for the last 12 month
H. Import the csvfile to an Amazon QuickSight dashboard.

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/AmazonS3/latest/userguide/storage_lens.html

**NEW QUESTION 50**
- (Exam Topic 1)
An AWS partner company is building a service in AWS Organizations using Its organization named org. This service requires the partner company to have access to AWS resources in a customer account, which is in a separate organization named org2 The company must establish least privilege security access using an

API or command line tool to the customer account
What is the MOST secure way to allow org1 to access resources h org2?

A. The customer should provide the partner company with their AWS account access keys to log in and perform the required tasks
B. The customer should create an IAM user and assign the required permissions to the IAM user The customer should then provide the credentials to the partner company to log In and perform the required tasks.
C. The customer should create an IAM role and assign the required permissions to the IAM rol
D. The partner company should then use the IAM rote's Amazon Resource Name (ARN) when requesting access to perform the required tasks
E. The customer should create an IAM rote and assign the required permissions to the IAM rot
F. The partner company should then use the IAM rote's Amazon Resource Name (ARN). Including the external ID in the IAM role's trust pokey, when requesting access to perform the required tasks

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/IAM/latest/UserGuide/confused-deputy.html
This is the most secure way to allow org1 to access resources in org2 because it allows for least privilege security access. The customer should create an IAM role and assign the required permissions to the IAM role. The partner company should then use the IAM role's Amazon Resource Name (ARN) and include the external ID in the IAM role's trust policy when requesting access to perform the required tasks. This ensures that the partner company can only access the resources that it needs and only from the specific customer account.

**NEW QUESTION 55**
- (Exam Topic 1)
A company developed a pilot application by using AWS Elastic Beanstalk and Java. To save costs during development, the company's development team deployed the application into a single-instance environment. Recent tests indicate that the application consumes more CPU than expected. CPU utilization is regularly greater than 85%, which causes some performance bottlenecks.
A solutions architect must mitigate the performance issues before the company launches the application to production.
Which solution will meet these requirements with the LEAST operational overhead?

A. Create a new Elastic Beanstalk applicatio
B. Select a load-balanced environment typ
C. Select all Availability Zone
D. Add a scale-out rule that will run if the maximum CPU utilization is over 85% for 5 minutes.
E. Create a second Elastic Beanstalk environmen
F. Apply the traffic-splitting deployment polic
G. Specify a percentage of incoming traffic to direct to the new environment in the average CPU utilization is over 85% for 5 minutes.
H. Modify the existing environment's capacity configuration to use a load-balanced environment type.Select all Availability Zone
I. Add a scale-out rule that will run if the average CPU utilization is over 85% for 5 minutes.
J. Select the Rebuild environment action with the load balancing option Select an Availability Zones Add a scale-out rule that will run if the sum CPU utilization is over 85% for 5 minutes.

**Answer:** C

**Explanation:**
This solution will meet the requirements with the least operational overhead because it allows the company to modify the existing environment's capacity configuration, so it becomes a load-balanced environment type. By selecting all availability zones, the company can ensure that the application is running in multiple availability zones, which can help to improve the availability and scalability of the application. The company can also add a scale-out rule that will run if the average CPU utilization is over 85% for 5 minutes, which can help to mitigate the performance issues. This solution does not require creating new Elastic Beanstalk environments or rebuilding the existing one, which reduces the operational overhead.
You can refer to the AWS Elastic Beanstalk documentation for more information on how to use this service: https://aws.amazon.com/elasticbeanstalk/ You can refer to the AWS documentation for more information on how to use autoscaling: https://aws.amazon.com/autoscaling/

**NEW QUESTION 58**
- (Exam Topic 1)
A company is subject to regulatory audits of its financial information. External auditors who use a single AWS account need access to the company's AWS account. A solutions architect must provide the auditors with secure, read-only access to the company's AWS account. The solution must comply with AWS security best practices.
Which solution will meet these requirements?

A. In the company's AWS account, create resource policies for all resources in the account to grant access to the auditors' AWS accoun
B. Assign a unique external ID to the resource policy.
C. In the company's AWS account create an IAM role that trusts the auditors' AWS account Create an IAM policy that has the required permission
D. Attach the policy to the rol
E. Assign a unique external ID to the role's trust policy.
F. In the company's AWS account, create an IAM use
G. Attach the required IAM policies to the IAM user.Create API access keys for the IAM use
H. Share the access keys with the auditors.
I. In the company's AWS account, create an IAM group that has the required permissions Create an IAM user in the company s account for each audito
J. Add the IAM users to the IAM group.

**Answer:** B

**Explanation:**
This solution will allow the external auditors to have read-only access to the company's AWS account while being compliant with AWS security best practices. By creating an IAM role, which is a secure and flexible way of granting access to AWS resources, and trusting the auditors' AWS account, the company can ensure that the auditors only have the permissions that are required for their role and nothing more. Assigning a unique external ID to the role's trust policy, it will ensure that only the auditors' AWS account can assume the role.
Reference:
AWS IAM Roles documentation: https://aws.amazon.com/iam/features/roles/ AWS IAM Best practices: https://aws.amazon.com/iam/security-best-practices/

**NEW QUESTION 63**
- (Exam Topic 1)
A company is using an on-premises Active Directory service for user authentication. The company wants to use the same authentication service to sign in to the company's AWS accounts, which are using AWS Organizations. AWS Site-to-Site VPN connectivity already exists between the on-premises environment and all the company's AWS accounts.
The company's security policy requires conditional access to the accounts based on user groups and roles. User identities must be managed in a single location.
Which solution will meet these requirements?

A. Configure AWS Single Sign-On (AWS SSO) to connect to Active Directory by using SAML 2.0.Enable automatic provisioning by using the System for Cross-domain Identity Management (SCIM) v2.0 protoco
B. Grant access to the AWS accounts by using attribute-based access controls (ABACs).
C. Configure AWS Single Sign-On (AWS SSO) by using AWS SSO as an identity sourc
D. Enable automatic provisioning by using the System for Cross-domain Identity Management (SCIM) v2.0 protoco
E. Grant access to the AWS accounts by using AWS SSO permission sets.
F. In one of the company's AWS accounts, configure AWS Identity and Access Management (IAM) to use a SAML 2.0 identity provide
G. Provision IAM users that are mapped to the federated user
H. Grant access that corresponds to appropriate groups in Active Director
I. Grant access to the required AWS accounts by using cross-account IAM users.
J. In one of the company's AWS accounts, configure AWS Identity and Access Management (IAM) to use an OpenID Connect (OIDC) identity provide
K. Provision IAM roles that grant access to the AWS account for the federated users that correspond to appropriate groups in Active Director
L. Grant access to the required AWS accounts by using cross-account IAM roles.

**Answer:** D

**Explanation:**
https://aws.amazon.com/blogs/aws/new-attributes-based-access-control-with-aws-single-sign-on/

**NEW QUESTION 65**
- (Exam Topic 1)
A company has developed a web application. The company is hosting the application on a group of Amazon EC2 instances behind an Application Load Balancer. The company wants to improve the security posture of the application and plans to use AWS WAF web ACLs. The solution must not adversely affect legitimate traffic to the application.
How should a solutions architect configure the web ACLs to meet these requirements?

A. Set the action of the web ACL rules to Coun
B. Enable AWS WAF logging Analyze the requests for false positives Modify the rules to avoid any false positive Over time change the action of the web ACL rules from Count to Block.
C. Use only rate-based rules in the web ACL
D. and set the throttle limit as high as possible Temporarily block all requests that exceed the limi
E. Define nested rules to narrow the scope of the rate tracking.
F. Set the action o' the web ACL rules to Bloc
G. Use only AWS managed rule groups in the web ACLs Evaluate the rule groups by using Amazon CloudWatch metrics with AWS WAF sampled requests or AWS WAF logs.
H. Use only custom rule groups in the web ACL
I. and set the action to Allow Enable AWS WAF logging Analyze the requests tor false positives Modify the rules to avoid any false positive Over time, change the action of the web ACL rules from Allow to Block.

**Answer:** A

**Explanation:**
https://aws.amazon.com/premiumsupport/knowledge-center/waf-analyze-count-action-rules/

**NEW QUESTION 67**
- (Exam Topic 1)
A company that uses AWS Organizations allows developers to experiment on AWS. As part of the landing zone that the company has deployed, developers use their company email address to request an account. The company wants to ensure that developers are not launching costly services or running services unnecessarily. The company must give developers a fixed monthly budget to limit their AWS costs.
Which combination of steps will meet these requirements? (Choose three.)

A. Create an SCP to set a fixed monthly account usage limi
B. Apply the SCP to the developer accounts.
C. Use AWS Budgets to create a fixed monthly budget for each developer's account as part of the account creation process.
D. Create an SCP to deny access to costly services and component
E. Apply the SCP to the developer accounts.
F. Create an IAM policy to deny access to costly services and component
G. Apply the IAM policy to the developer accounts.
H. Create an AWS Budgets alert action to terminate services when the budgeted amount is reached.Configure the action to terminate all services.
I. Create an AWS Budgets alert action to send an Amazon Simple Notification Service (Amazon SNS) notification when the budgeted amount is reache
J. Invoke an AWS Lambda function to terminate all services.

**Answer:** BCF

**Explanation:**
Option A is incorrect because creating an SCP to set a fixed monthly account usage limit is not possible.
SCPs are policies that specify the services and actions that users and roles can use in the member accounts of an AWS Organization. SCPs cannot enforce budget limits or prevent users from launching
costly services or running services unnecessarily1
Option B is correct because using AWS Budgets to create a fixed monthly budget for each developer’s account as part of the account creation process meets the requirement of giving developers a fixed monthly budget to limit their AWS costs. AWS Budgets allows you to plan your service usage, service costs, and instance reservations. You can create budgets that alert you when your costs or usage exceed (or are forecasted to exceed) your budgeted amount2

Option C is correct because creating an SCP to deny access to costly services and components meets the requirement of ensuring that developers are not launching costly services or running services
unnecessarily. SCPs can restrict access to certain AWS services or actions based on conditions such as region, resource tags, or request time. For example, an SCP can deny access to Amazon Redshift clusters or Amazon EC2 instances with certain instance types1

Option D is incorrect because creating an IAM policy to deny access to costly services and components is not sufficient to meet the requirement of ensuring that developers are not launching costly services or running services unnecessarily. IAM policies can only control access to resources within a single AWS account. If developers have multiple accounts or can create new accounts, they can bypass the IAM policy restrictions. SCPs can apply across multiple accounts within an AWS Organization and prevent users from creating new accounts that do not comply with the SCP rules3

Option E is incorrect because creating an AWS Budgets alert action to terminate services when the budgeted amount is reached is not possible. AWS Budgets alert actions can only perform one of the following actions: apply an IAM policy, apply an SCP, or send a notification through Amazon SNS. AWS Budgets alert actions cannot terminate services directly.

Option F is correct because creating an AWS Budgets alert action to send an Amazon SNS notification when the budgeted amount is reached and invoking an AWS Lambda function to terminate all services meets the requirement of giving developers a fixed monthly budget to limit their AWS costs. AWS Budgets alert actions can send notifications through Amazon SNS when a budget threshold is breached. Amazon SNS can trigger an AWS Lambda function that can perform custom logic such as terminating all services in the developer's account. This way, developers cannot exceed their budget limit and incur additional costs.
References: 1: https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps.html 2
: https://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/budgets-create.html 3: https://docs.aws.amazon.com/IAM/latest/UserGuide/introduction.html :
https://docs.aws.amazon.com/cost-management/latest/userguide/budgets-actions.html : https://docs.aws.amazon.com/sns/latest/dg/sns-lambda.html :
https://docs.aws.amazon.com/lambda/latest/dg/welcome.html

**NEW QUESTION 70**
- (Exam Topic 1)
A company's solutions architect is reviewing a new internally developed application in a sandbox AWS account The application uses an AWS Auto Scaling group of Amazon EC2 instances that have an IAM instance profile attached Part of the application logic creates and accesses secrets from AWS Secrets Manager The company has an AWS Lambda function that calls the application API to test the functionality The company also has created an AWS CloudTrail trail in the account
The application's developer has attached the SecretsManagerReadWnte AWS managed IAM policy to an IAM role The IAM role is associated with the instance profile that is attached to the EC2 instances The solutions architect has invoked the Lambda function for testing
The solutions architect must replace the SecretsManagerReadWnte policy with a new policy that provides least privilege access to the Secrets Manager actions that the application requires
What is the MOST operationally efficient solution that meets these requirements?

A. Generate a policy based on CloudTrail events for the IAM role Use the generated policy output to create a new IAM policy Use the newly generated IAM policy to replace the SecretsManagerReadWnte policy that is attached to the IAM role
B. Create an analyzer in AWS Identity and Access Management Access Analyzer Use the IAM role's Access Advisor findings to create a new IAM policy Use the newly created IAM policy to replace the SecretsManagerReadWnte policy that is attached to the IAM role
C. Use the aws cloudtrail lookup-events AWS CLI command to filter and export CloudTrail events that are related to Secrets Manager Use a new IAM policy that contains the actions from CloudTrail to replace the SecretsManagerReadWnte policy that is attached to the IAM role
D. Use the IAM policy simulator to generate an IAM policy for the IAM role Use the newly generated IAM policy to replace the SecretsManagerReadWnte policy that is attached to the IAM role

**Answer:** B

**Explanation:**
The IAM policy simulator will generate a policy that contains only the necessary permissions for the application to access Secrets Manager, providing the least privilege necessary to get the job done. This is the most efficient solution as it will not require additional steps such as analyzing CloudTrail events or manually creating and testing an IAM policy.
You can use the IAM policy simulator to generate an IAM policy for an IAM role by specifying the role and the API actions and resources that the application or service requires. The simulator will then generate an IAM policy that grants the least privilege access to those actions and resources.
Once you have generated an IAM policy using the simulator, you can replace the existing SecretsManagerReadWnte policy that is attached to the IAM role with the newly generated policy. This will ensure that the application or service has the least privilege access to the Secrets Manager actions that it requires.
You can access the IAM policy simulator through the IAM console, AWS CLI, and AWS SDKs. Here is the link for more information:
https://docs.aws.amazon.com/IAM/latest/UserGuide/access_policies_simulator.html

**NEW QUESTION 72**
- (Exam Topic 1)
A company runs its application in the eu-west-1 Region and has one account for each of its environments development, testing, and production All the environments are running 24 hours a day 7 days a week by using stateful Amazon EC2 instances and Amazon RDS for MySQL databases The databases are between 500 GB and 800 GB in size
The development team and testing team work on business days during business hours, but the production environment operates 24 hours a day. 7 days a week. The company wants to reduce costs AH resources are tagged with an environment tag with either development, testing, or production as the key. What should a solutions architect do to reduce costs with the LEAST operational effort?

A. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that runs once every day Configure the rule to invoke one AWS Lambda function that starts or stops instances based on the tag day and time.
B. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that runs every business day in the evenin
C. Configure the rule to invoke an AWS Lambda function that stops instances based on thetag-Create a second EventBridge (CloudWatch Events) rule that runs every business day in the morning Configure the second rule to invoke another Lambda function that starts instances based on the tag
D. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that runs every business day in the evening Configure the rule to invoke an AWS Lambda function that terminates instances based on the tag Create a second EventBridge (CloudWatch Events) rule that runs every business day in the morning Configure the second rule to invoke another Lambda function that restores the instances from their last backup based on the tag.
E. Create an Amazon EventBridge rule that runs every hou
F. Configure the rule to invoke one AWS Lambda function that terminates or restores instances from their last backup based on the ta
G. day, and time.

**Answer:** B

**Explanation:**
Creating an Amazon EventBridge rule that runs every business day in the evening to stop instances and another rule that runs every business day in the morning to start instances based on the tag will reduce costs with the least operational effort. This approach allows for instances to be stopped during non-business hours

when they are not in use, reducing the costs associated with running them. It also allows for instances to be started again in the morning when the development and testing teams need to use them.

**NEW QUESTION 73**
- (Exam Topic 1)
A finance company is running its business-critical application on current-generation Linux EC2 instances The application includes a self-managed MySQL database performing heavy I/O operations. The application is working fine to handle a moderate amount of traffic during the month. However, it slows down during the final three days of each month due to month-end reporting, even though the company is using Elastic Load Balancers and Auto Scaling within its infrastructure to meet the increased demand.
Which of the following actions would allow the database to handle the month-end load with the LEAST impact on performance?

A. Pre-warming Elastic Load Balancers, using a bigger instance type, changing all Amazon EBS volumes to GP2 volumes.
B. Performing a one-time migration of the database cluster to Amazon RD
C. and creating several additional read replicas to handle the load during end of month
D. Using Amazon CioudWatch with AWS Lambda to change the typ
E. size, or IOPS of Amazon EBS volumes in the cluster based on a specific CloudWatch metric
F. Replacing all existing Amazon EBS volumes with new PIOPS volumes that have the maximum available storage size and I/O per second by taking snapshots before the end of the month and reverting back afterwards.

**Answer:** B

**Explanation:**
In this scenario, the Amazon EC2 instances are in an Auto Scaling group already which means that the database read operations is the possible bottleneck especially during the month-end wherein the reports are generated. This can be solved by creating RDS read replicas.

**NEW QUESTION 78**
- (Exam Topic 1)
A company runs a Java application that has complex dependencies on VMs that are in the company's data center. The application is stable. but the company wants to modernize the technology stack. The company wants to migrate the application to AWS and minimize the administrative overhead to maintain the servers.
Which solution will meet these requirements with the LEAST code changes?

A. Migrate the application to Amazon Elastic Container Service (Amazon ECS) on AWS Fargate by using AWS App2Containe
B. Store container images in Amazon Elastic Container Registry (Amazon ECR). Grant the ECS task execution role permission 10 access the ECR image repositor
C. Configure Amazon ECS to use an Application Load Balancer (ALB). Use the ALB to interact with the application.
D. Migrate the application code to a container that runs in AWS Lambd
E. Build an Amazon API Gateway REST API with Lambda integratio
F. Use API Gateway to interact with the application.
G. Migrate the application to Amazon Elastic Kubernetes Service (Amazon EKS) on EKS managed node groups by using AWS App2Containe
H. Store container images in Amazon Elastic Container Registry (Amazon ECR). Give the EKS nodes permission to access the ECR image repositor
I. Use Amazon API Gateway to interact with the application.
J. Migrate the application code to a container that runs in AWS Lambd
K. Configure Lambda to use an Application Load Balancer (ALB). Use the ALB to interact with the application.

**Answer:** A

**Explanation:**
According to the AWS documentation1, AWS App2Container (A2C) is a command line tool for migrating and modernizing Java and .NET web applications into container format. AWS A2C analyzes and builds an inventory of applications running in bare metal, virtual machines, Amazon Elastic Compute Cloud (EC2) instances, or in the cloud. You can use AWS A2C to generate container images for your applications and deploy them on Amazon ECS or Amazon EKS.
Option A meets the requirements of the scenario because it allows you to migrate your existing Java application to AWS and minimize the administrative overhead to maintain the servers. You can use AWS A2C to analyze your application dependencies, extract application artifacts, and generate a Dockerfile. You can then store your container images in Amazon ECR, which is a fully managed container registry service. You can use AWS Fargate as the launch type for your Amazon ECS cluster, which is a serverless compute engine that eliminates the need to provision and manage servers for your containers. You can grant the ECS task execution role permission to access the ECR image repository, which allows your tasks to pull images from ECR. You can configure Amazon ECS to use an ALB, which is a load balancer that distributes traffic across multiple targets in multiple Availability Zones using HTTP or HTTPS protocols. You can use the ALB to interact with your application.

**NEW QUESTION 83**
- (Exam Topic 1)
A company is in the process of implementing AWS Organizations to constrain its developers to use only Amazon EC2. Amazon S3 and Amazon DynamoDB. The developers account resides In a dedicated organizational unit (OU). The solutions architect has implemented the following SCP on the developers account:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "AllowEC2",
            "Effect": "Allow",
            "Action": "ec2:*",
            "Resource": "*"
        },
        {
            "Sid": "AllowDynamoDB",
            "Effect": "Allow",
            "Action": "dynamodb:*",
            "Resource": "*"
        },
        {
            "Sid": "AllowS3",
            "Effect": "Allow",
            "Action": "s3:*",
            "Resource": "*"
        }
    ]
}
```

When this policy is deployed, IAM users in the developers account are still able to use AWS services that are not listed in the policy. What should the solutions architect do to eliminate the developers' ability to use services outside the scope of this policy?

A. Create an explicit deny statement for each AWS service that should be constrained
B. Remove the Full AWS Access SCP from the developer account's OU
C. Modify the Full AWS Access SCP to explicitly deny all services
D. Add an explicit deny statement using a wildcard to the end of the SCP

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_inheritance_auth.html

**NEW QUESTION 87**
- (Exam Topic 1)
A company recently acquired several other companies. Each company has a separate AWS account with a different billing and reporting method. The acquiring company has consolidated all the accounts into one organization in AWS Organizations. However, the acquiring company has found it difficult to generate a cost report that contains meaningful groups for all the teams.
The acquiring company's finance team needs a solution to report on costs for all the companies through a self-managed application.
Which solution will meet these requirements?

A. Create an AWS Cost and Usage Report for the organizatio
B. Define tags and cost categories in the repor
C. Create a table in Amazon Athen
D. Create an Amazon QuickSight dataset based on the Athena tabl
E. Share the dataset with the finance team.
F. Create an AWS Cost and Usage Report for the organizatio
G. Define tags and cost categories in the repor
H. Create a specialized template in AWS Cost Explorer that the finance department will use to build reports.
I. Create an Amazon QuickSight dataset that receives spending information from the AWS Price List Query AP
J. Share the dataset with the finance team.
K. Use the AWS Price List Query API to collect account spending informatio
L. Create a specialized template in AWS Cost Explorer that the finance department will use to build reports.

**Answer:** A

**Explanation:**
Creating an AWS Cost and Usage Report for the organization and defining tags and cost categories in the report will allow for detailed cost reporting for the different companies that have been consolidated into one organization. By creating a table in Amazon Athena and an Amazon QuickSight dataset based on the Athena table, the finance team will be able to easily query and generate reports on the costs for all the companies. The dataset can then be shared with the finance team for them to use for their reporting needs.

**NEW QUESTION 91**
- (Exam Topic 1)
A company is hosting a critical application on a single Amazon EC2 instance. The application uses an Amazon ElastiCache for Redis single-node cluster for an in-memory data store. The application uses an Amazon RDS for MariaDB DB instance for a relational database. For the application to function, each piece of the infrastructure must be healthy and must be in an active state.
A solutions architect needs to improve the application's architecture so that the infrastructure can automatically recover from failure with the least possible downtime.
Which combination of steps will meet these requirements? (Select THREE.)

A. Use an Elastic Load Balancer to distribute traffic across multiple EC2 instance
B. Ensure that the EC2 instances are part of an Auto Scaling group that has a minimum capacity of two instances.
C. Use an Elastic Load Balancer to distribute traffic across multiple EC2 instances Ensure that the EC2 instances are configured in unlimited mode.
D. Modify the DB instance to create a read replica in the same Availability Zon
E. Promote the read replica to be the primary DB instance in failure scenarios.
F. Modify the DB instance to create a Multi-AZ deployment that extends across two Availability Zones.
G. Create a replication group for the ElastiCache for Redis cluste
H. Configure the cluster to use an Auto Scaling group that has a minimum capacity of two instances.
I. Create a replication group for the ElastiCache for Redis cluste
J. Enable Multi-AZ on the cluster.

**Answer:** ADF

**Explanation:**

Option A is correct because using an Elastic Load Balancer and an Auto Scaling group with a minimum capacity of two instances can improve the availability and scalability of the EC2 instances that host the application. The load balancer can distribute traffic across multiple instances and the Auto Scaling group can replace any unhealthy instances automatically1

Option D is correct because modifying the DB instance to create a Multi-AZ deployment that extends across two Availability Zones can improve the availability and durability of the RDS for MariaDB
database. Multi-AZ deployments provide enhanced data protection and minimize downtime by automatically failing over to a standby replica in another Availability Zone in case of a planned or unplanned outage4

Option F is correct because creating a replication group for the ElastiCache for Redis cluster and enabling Multi-AZ on the cluster can improve the availability and fault tolerance of the in-memory data store. A replication group consists of a primary node and up to five read-only replica nodes that are synchronized with the primary node using asynchronous replication. Multi-AZ allows automatic failove to one of the replicas if the primary node fails or becomes unreachable6
References: 1:
https://docs.aws.amazon.com/elasticloadbalancing/latest/userguide/how-elastic-load-balancing-works.html 2:
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/burstable-performance-instances-unlimited-mode.htm 3:
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.html 4:
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html 5:
https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/AutoScaling.html 6: https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/Replication.Redis.Groups.html

**NEW QUESTION 93**
- (Exam Topic 1)
A financial services company in North America plans to release a new online web application to its customers on AWS . The company will launch the application in the us-east-1 Region on Amazon EC2 instances. The application must be highly available and must dynamically scale to meet user traffic. The company also wants to implement a disaster recovery environment for the application in the us-west-1 Region by using active-passive failover.
Which solution will meet these requirements?

A. Create a VPC in us-east-1 and a VPC in us-west-1 Configure VPC peering In the us-east-1 VP
B. create an Application Load Balancer (ALB) that extends across multiple Availability Zones in both VPCs Create an Auto Scaling group that deploys the EC2 instances across the multiple Availability Zones in both VPCs Place the Auto Scaling group behind the ALB.
C. Create a VPC in us-east-1 and a VPC in us-west-1. In the us-east-1 VP
D. create an Application Load Balancer (ALB) that extends across multiple Availability Zones in that VP
E. Create an Auto Scaling group that deploys the EC2 instances across the multiple Availability Zones in the us-east-1 VPC Place the Auto Scaling group behind the ALB Set up the same configuration in the us-west-1 VP
F. Create an Amazon Route 53 hosted zone Create separate records for each ALB Enable health checks to ensure high availability between Regions.
G. Create a VPC in us-east-1 and a VPC in us-west-1 In the us-east-1 VP
H. create an Application Load Balancer (ALB) that extends across multiple Availability Zones in that VPC Create an Auto Scaling group that deploys the EC2 instances across the multiple Availability Zones in the us-east-1 VPC Place the Auto Scaling group behind the ALB Set up the same configuration in the us-west-1 VPC Create an Amazon Route 53 hosted zon
I. Create separate records for each ALB Enable health checks and configure a failover routing policy for each record.
J. Create a VPC in us-east-1 and a VPC in us-west-1 Configure VPC peering In the us-east-1 VP
K. create an Application Load Balancer (ALB) that extends across multiple Availability Zones in Create an Auto Scaling group that deploys the EC2 instances across the multiple Availability Zones in both VPCs Place the Auto Scaling group behind the ALB Create an Amazon Route 53 host.. Create a record for the ALB.

**Answer:** C

**Explanation:**
it's the one that handles failover while B (the one shown as the answer today) it almost the same but does not handle failover.

**NEW QUESTION 97**
- (Exam Topic 1)
A company is running a data-intensive application on AWS. The application runs on a cluster of hundreds of Amazon EC2 instances. A shared file system also runs on several EC2 instances that store 200 TB of data. The application reads and modifies the data on the shared file system and generates a report. The job runs once monthly, reads a subset of the files from the shared file system, and takes about 72 hours to complete. The compute instances scale in an Auto Scaling group, but the instances that host the shared file system run continuously. The compute and storage instances are all in the same AWS Region.
A solutions architect needs to reduce costs by replacing the shared file system instances. The file system must provide high performance access to the needed data for the duration of the 72-hour run.
Which solution will provide the LARGEST overall cost reduction while meeting these requirements?

A. Migrate the data from the existing shared file system to an Amazon S3 bucket that uses the S3 Intelligent-Tiering storage clas
B. Before the job runs each month, use Amazon FSx for Lustre to create a new file system with the data from Amazon S3 by using lazy loadin
C. Use the new file system as the shared storage for the duration of the jo
D. Delete the file system when the job is complete.
E. Migrate the data from the existing shared file system to a large Amazon Elastic Block Store (Amazon EBS) volume with Multi-Attach enable
F. Attach the EBS volume to each of the instances by using a user data script in the Auto Scaling group launch templat
G. Use the EBS volume as the shared storage for the duration of the jo
H. Detach the EBS volume when the job is complete.
I. Migrate the data from the existing shared file system to an Amazon S3 bucket that uses the S3 Standard storage clas

J. Before the job runs each month, use Amazon FSx for Lustre to create a new file system with the data from Amazon S3 by using batch loadin
K. Use the new file system as the shared storage for the duration of the jo
L. Delete the file system when the job is complete.
M. Migrate the data from the existing shared file system to an Amazon S3 bucke
N. Before the job runs each month, use AWS Storage Gateway to create a file gateway with the data from Amazon S3. Use the file gateway as the shared storage for the jo
O. Delete the file gateway when the job is complete.

**Answer:** A

**Explanation:**
https://aws.amazon.com/blogs/storage/new-enhancements-for-moving-data-between-amazon-fsx-for-lustre-and

**NEW QUESTION 99**
- (Exam Topic 1)
A company is building a software-as-a-service (SaaS) solution on AWS. The company has deployed an Amazon API Gateway REST API with AWS Lambda integration in multiple AWS Regions and in the same production account.
The company offers tiered pricing that gives customers the ability to pay for the capacity to make a certain number of API calls per second. The premium tier offers up to 3,000 calls per second, and customers are identified by a unique API key. Several premium tier customers in various Regions report that they receive error responses of 429 Too Many Requests from multiple API methods during peak usage hours. Logs indicate that the Lambda function is never invoked.
What could be the cause of the error messages for these customers?

A. The Lambda function reached its concurrency limit.
B. The Lambda function its Region limit for concurrency.
C. The company reached its API Gateway account limit for calls per second.
D. The company reached its API Gateway default per-method limit for calls per second.

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-request-throttling.html#apig-reques

**NEW QUESTION 101**
- (Exam Topic 1)
A company is running a web application in the AWS Cloud. The application consists of dynamic content that is created on a set of Amazon EC2 instances. The EC2 instances run in an Auto Scaling group that is configured as a target group for an Application Load Balancer (ALB).
The company is using an Amazon CloudFront distribution to distribute the application globally. The CloudFront distribution uses the ALB as an origin. The company uses Amazon Route 53 for DNS and has created an A record of www.example.com for the CloudFront distribution.
A solutions architect must configure the application so that itis highly available and fault tolerant. Which solution meets these requirements?

A. Provision a full, secondary application deployment in a different AWS Regio
B. Update the Route 53 A record to be a failover recor
C. Add both of the CloudFront distributions as value
D. Create Route 53 health checks.
E. Provision an ALB, an Auto Scaling group, and EC2 instances in a different AWS Regio
F. Update the CloudFront distribution, and create a second origin for the new AL
G. Create an origin group for the two origin
H. Configure one origin as primary and one origin as secondary.
I. Provision an Auto Scaling group and EC2 instances in a different AWS Regio
J. Create a second target for the new Auto Scaling group in the AL
K. Set up the failover routing algorithm on the ALB.
L. Provision a full, secondary application deployment in a different AWS Regio
M. Create a second CloudFront distribution, and add the new application setup as an origi
N. Create an AWS Global Accelerator accelerato
O. Add both of the CloudFront distributions as endpoints.

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/DownloadDistS3AndCustomOrigins.h
https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/high_availability_origin_failover.html
You can set up CloudFront with origin failover for scenarios that require high availability. To get started, you create an origin group with two origins: a primary and a secondary. If the primary origin is unavailable, or returns specific HTTP response status codes that indicate a failure, CloudFront automatically switches to the secondary origin.

**NEW QUESTION 106**
- (Exam Topic 1)
A company has its cloud infrastructure on AWS A solutions architect needs to define the infrastructure as code. The infrastructure is currently deployed in one AWS Region. The company's business expansion plan includes deployments in multiple Regions across multiple AWS accounts
What should the solutions architect do to meet these requirements?

A. Use AWS CloudFormation templates Add IAM policies to control the various accounts Deploy the templates across the multiple Regions
B. Use AWS Organizations Deploy AWS CloudFormation templates from the management account Use AWS Control Tower to manage deployments across accounts
C. Use AWS Organizations and AWS CloudFormation StackSets Deploy a CloudFormation template from an account that has the necessary IAM permissions
D. Use nested stacks with AWS CloudFormation templates Change the Region by using nested stacks

**Answer:** C

**Explanation:**

https://aws.amazon.com/blogs/aws/new-use-aws-cloudformation-stacksets-for-multiple-accounts-in-an-aws-orga AWS Organizations allows the management of multiple AWS accounts as a single entity and AWS
CloudFormation StackSets allows creating, updating, and deleting stacks across multiple accounts and regions in an organization. This solution allows creating a single CloudFormation template that can be deployed across multiple accounts and regions, and also allows for the management of access and permissions for the different accounts through the use of IAM roles and policies in the management account.

**NEW QUESTION 107**
- (Exam Topic 1)
A company has purchased appliances from different vendors. The appliances all have loT sensors. The sensors send status information in the vendors' proprietary formats to a legacy application that parses the information into JSON. The parsing is simple, but each vendor has a unique format. Once daily, the application parses all the JSON records and stores the records in a relational database for analysis.
The company needs to design a new data analysis solution that can deliver faster and optimize costs. Which solution will meet these requirements?

A. Connect the loT sensors to AWS loT Cor
B. Set a rule to invoke an AWS Lambda function to parse the information and save a .csv file to Amazon S3. Use AWS Glue to catalog the file
C. Use Amazon Athena and Amazon OuickSight for analysis.
D. Migrate the application server to AWS Fargate, which will receive the information from loT sensors and parse the information into a relational forma
E. Save the parsed information to Amazon Redshift for analysis.
F. Create an AWS Transfer for SFTP serve
G. Update the loT sensor code to send the information as a .csv file through SFTP to the serve
H. Use AWS Glue to catalog the file
I. Use Amazon Athena for analysis.
J. Use AWS Snowball Edge to collect data from the loT sensors directly to perform local analysis.Periodically collect the data into Amazon Redshift to perform global analysis.

**Answer:** A

**Explanation:**
Connect the IoT sensors to AWS IoT Core. Set a rule to invoke an AWS Lambda function to parse the information and save a .csv file to Amazon S3. Use AWS Glue to catalog the files. Use Amazon Athena and Amazon QuickSight for analysis. This solution meets the requirement of faster analysis and cost optimization by using AWS IoT Core to collect data from the IoT sensors in real-time and then using AWS Glue and Amazon Athena for efficient data analysis.
This solution involves connecting the loT sensors to the AWS loT Core, setting a rule to invoke an AWS Lambda function to parse the information, and saving a .csv file to Amazon S3. AWS Glue can be used to catalog the files and Amazon Athena and Amazon QuickSight can be used for analysis. This solution will enable faster and more cost-effective data analysis.
This solution is in line with the official Amazon Textbook and Resources for the AWS Certified Solutions Architect - Professional certification. In particular, the book states that: “AWS IoT Core can be used to ingest and process the data, AWS Lambda can be used to process and transform the data, and Amazon S3 can be used to store the data. AWS Glue can be used to catalog and access the data, Amazon Athena can be used to query the data, and Amazon QuickSight can be used to visualize the data.” (Source: https://d1.awsstatic.com/training-and-certification/docs-sa-pro/AWS_Certified_Solutions_Architect_Professiona

**NEW QUESTION 108**
- (Exam Topic 1)
A company built an application based on AWS Lambda deployed in an AWS CloudFormation stack. The last production release of the web application introduced an issue that resulted in an outage lasting several minutes. A solutions architect must adjust the deployment process to support a canary release.
Which solution will meet these requirements?

A. Create an alias for every new deployed version of the Lambda functio
B. Use the AWS CLI update-alias command with the routing-config parameter to distribute the load.
C. Deploy the application into a new CloudFormation stac
D. Use an Amazon Route 53 weighted routing policy to distribute the load.
E. Create a version for every new deployed Lambda functio
F. Use the AWS CLIupdate-function-configuration command with the routing-config parameter to distribute the load.
G. Configure AWS CodeDeploy and use CodeDeployDefault.OneAtATime in the Deployment configuration to distribute the load.

**Answer:** A

**Explanation:**
https://aws.amazon.com/blogs/compute/implementing-canary-deployments-of-aws-lambda-functions-with-alias-
https://docs.aws.amazon.com/lambda/latest/dg/configuration-aliases.html

**NEW QUESTION 112**
- (Exam Topic 1)
A solutions architect needs to copy data from an Amazon S3 bucket m an AWS account to a new S3 bucket in a new AWS account. The solutions architect must implement a solution that uses the AWS CLI.
Which combination of steps will successfully copy the data? (Choose three.)

A. Create a bucket policy to allow the source bucket to list its contents and to put objects and set object ACLs in the destination bucke
B. Attach the bucket policy to the destination bucket.
C. Create a bucket policy to allow a user In the destination account to list the source bucket's contents and read the source bucket's object
D. Attach the bucket policy to the source bucket.
E. Create an IAM policy in the source accoun
F. Configure the policy to allow a user In the source account to list contents and get objects In the source bucket, and to list contents, put objects, and set object ACLs in the destination bucke
G. Attach the policy to the user _
H. Create an IAM policy in the destination accoun
I. Configure the policy to allow a user In the destination account to list contents and get objects In the source bucket, and to list contents, put objects, and set objectACLs in the destination bucke
J. Attach the policy to the user.
K. Run the aws s3 sync command as a user in the source accoun
L. Specify' the source and destination buckets to copy the data.

M. Run the aws s3 sync command as a user in the destination accoun
N. Specify' the source and destination buckets to copy the data.

**Answer:** BDF

**Explanation:**
Step B is necessary so that the user in the destination account has the necessary permissions to access the source bucket and list its contents, read its objects. Step D is needed so that the user in the destination account has the necessary permissions to access the destination bucket and list contents, put objects, and set object ACLs Step F is necessary because the aws s3 sync command needs to be run using the IAM user credentials from the destination account, so that the objects will have the appropriate permissions for the user in the destination account once they are copied.

**NEW QUESTION 116**
- (Exam Topic 1)
A video processing company wants to build a machine learning (ML) model by using 600 TB of compressed data that is stored as thousands of files in the company's on-premises network attached storage system. The company does not have the necessary compute resources on premises for ML experiments and wants to use AWS.
The company needs to complete the data transfer to AWS within 3 weeks. The data transfer will be a one-time transfer. The data must be encrypted in transit. The measured upload speed of the company's internet connection is 100 Mbps, and multiple departments share the connection.
Which solution will meet these requirements MOST cost-effectively?

A. Order several AWS Snowball Edge Storage Optimized devices by using the AWS Management Consol
B. Configure the devices with a destination S3 bucke
C. Copy the data to the device
D. Ship the devices back to AWS.
E. Set up a 10 Gbps AWS Direct Connect connection between the company location and the nearest AWS Regio
F. Transfer the data over a VPN connection into the Region to store the data in Amazon S3.
G. Create a VPN connection between the on-premises network storage and the nearest AWS Region.Transfer the data over the VPN connection.
H. Deploy an AWS Storage Gateway file gateway on premise
I. Configure the file gateway with a destination S3 bucke
J. Copy the data to the file gateway.

**Answer:** A

**Explanation:**
This solution will meet the requirements of the company as it provides a secure, cost-effective and fast way of transferring large data sets from on-premises to AWS. Snowball Edge devices encrypt the data during transfer, and the devices are shipped back to AWS for import into S3. This option is more cost effective than using Direct Connect or VPN connections as it does not require the company to pay for long-term dedicated connections.

**NEW QUESTION 119**
- (Exam Topic 1)
A retail company has an on-premises data center in Europe. The company also has a multi-Region AWS presence that includes the eu-west-1 and us-east-1 Regions. The company wants to be able to route network traffic from its on-premises infrastructure into VPCs in either of those Regions. The company also needs to support traffic that is routed directly between VPCs in those Regions. No single points of failure can exist on the network.
The company already has created two 1 Gbps AWS Direct Connect connections from its on-premises data center. Each connection goes into a separate Direct Connect location in Europe for high availability. These two locations are named DX-A and DX-B, respectively. Each Region has a single AWS Transit Gateway that is configured to route all inter-VPC traffic within that Region.
Which solution will meet these requirements?

A. Create a private VIF from the DX-A connection into a Direct Connect gatewa
B. Create a private VIF from the DX-B connection into the same Direct Connect gateway for high availabilit
C. Associate both the eu-west-1 and us-east-1 transit gateways with the Direct Connect gatewa
D. Peer the transit gatewayswith each other to support cross-Region routing.
E. Create a transit VIF from the DX-A connection into a Direct Connect gatewa
F. Associate the eu-west-1 transit gateway with this Direct Connect gatewa
G. Create a transit VIF from the DX-B connection into a separate Direct Connect gatewa
H. Associate the us-east-1 transit gateway with this separate Direct Connect gatewa
I. Peer the Direct Connect gateways with each other to support high availability and cross-Region routing.
J. Create a transit VIF from the DX-A connection into a Direct Connect gatewa
K. Create a transit VIF from the DX-B connection into the same Direct Connect gateway for high availabilit
L. Associate both the eu-west-1 and us-east-1 transit gateways with this Direct Connect gatewa
M. Configure the Direct Connect gateway to route traffic between the transit gateways.
N. Create a transit VIF from the DX-A connection into a Direct Connect gatewa
O. Create a transit VIF from the DX-B connection into the same Direct Connect gateway for high availabilit
P. Associate both the eu-west-1 and us-east-1 transit gateways with this Direct Connect gatewa
Q. Peer the transit gateways with each other to support cross-Region routing.

**Answer:** D

**Explanation:**
in this solution, two transit VIFs are created - one from the DX-A connection and one from the DX-B connection - into the same Direct Connect gateway for high availability. Both the eu-west-1 and us-east-1 transit gateways are then associated with this Direct Connect gateway. The transit gateways are then peered with each other to support cross-Region routing. This solution meets the requirements of the company by creating a highly available connection between the on-premises data center and the VPCs in both the eu-west-1 and us-east-1 regions, and by enabling direct traffic routing between VPCs in those regions.

**NEW QUESTION 123**
- (Exam Topic 1)
A company uses a service to collect metadata from applications that the company hosts on premises. Consumer devices such as TVs and internet radios access the applications. Many older devices do not support certain HTTP headers and exhibit errors when these headers are present in responses. The company has configured an on-premises load balancer to remove the unsupported headers from responses sent to older devices, which the company identified by the User-Agent headers.

The company wants to migrate the service to AWS, adopt serverless technologies, and retain the ability to support the older devices. The company has already migrated the applications into a set of AWS Lambda functions.
Which solution will meet these requirements?

A. Create an Amazon CloudFront distribution for the metadata servic
B. Create an Application Load Balancer (ALB). Configure the CloudFront distribution to forward requests to the AL
C. Configure the ALB to invoke the correct Lambda function for each type of reques
D. Create a CloudFront function to remove the problematic headers based on the value of the User-Agent header.
E. Create an Amazon API Gateway REST API for the metadata servic
F. Configure API Gateway to invoke the correct Lambda function for each type of reques
G. Modify the default gateway responses to remove the problematic headers based on the value of the User-Agent header.
H. Create an Amazon API Gateway HTTP API for the metadata servic
I. Configure API Gateway to invoke the correct Lambda function for each type of reques
J. Create a response mapping template to remove the problematic headers based on the value of the User-Agen
K. Associate the response data mapping with the HTTP API.
L. Create an Amazon CloudFront distribution for the metadata servic
M. Create an Application Load Balancer (ALB). Configure the CloudFront distribution to forward requests to the AL
N. Configure the ALB to invoke the correct Lambda function for each type of reques
O. Create a Lambda@Edge function that will remove the problematic headers in response to viewer requests based on the value of theUser-Agent header.

**Answer:** D

**Explanation:**
https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/lambda-examples.html

**NEW QUESTION 124**
- (Exam Topic 1)
A company has a web application that allows users to upload short videos. The videos are stored on Amazon EBS volumes and analyzed by custom recognition software for categorization.
The website contains stat c content that has variable traffic with peaks in certain months. The architecture consists of Amazon EC2 instances running in an Auto Scaling group for the web application and EC2
instances running in an Auto Scaling group to process an Amazon SQS queue The company wants to
re-architect the application to reduce operational overhead using AWS managed services where possible and remove dependencies on third-party software.
Which solution meets these requirements?

A. Use Amazon ECS containers for the web application and Spot Instances for the Auto Scaling group that processes the SQS queu
B. Replace the custom software with Amazon Recognition to categorize the videos.
C. Store the uploaded videos n Amazon EFS and mount the file system to the EC2 instances for Te web applicatio
D. Process the SOS queue with an AWS Lambda function that calls the Amazon Rekognition API to categorize the videos.
E. Host the web application in Amazon S3. Store the uploaded videos in Amazon S3. Use S3 event notifications to publish events to the SQS queue Process the SQS queue with an AWS Lambda function that calls the Amazon Rekognition API to categorize the videos.
F. Use AWS Elastic Beanstalk to launch EC2 instances in an Auto Scaling group for the web application and launch a worker environment to process the SQS queue Replace the custom software with Amazon Rekognition to categorize the videos.

**Answer:** C

**Explanation:**
Option C is correct because hosting the web application in Amazon S3, storing the uploaded videos in Amazon S3, and using S3 event notifications to publish events to the SQS queue reduces the operational overhead of managing EC2 instances and EBS volumes. Amazon S3 can serve static content such as HTML, CSS, JavaScript, and media files directly from S3 buckets. Amazon S3 can also trigger AWS Lambda functions through S3 event notifications when new objects are created or existing objects are updated or deleted. AWS Lambda can process the SQS queue with an AWS Lambda function that calls the Amazon Rekognition API to categorize the videos. This solution eliminates the need for custom recognition software and third-party dependencies345
References: 1: https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-spot-instances.html 2:
https://aws.amazon.com/efs/pricing/ 3:
https://docs.aws.amazon.com/AmazonS3/latest/userguide/WebsiteHosting.html 4:
https://docs.aws.amazon.com/AmazonS3/latest/userguide/NotificationHowTo.html 5:
https://docs.aws.amazon.com/rekognition/latest/dg/what-is.html 6: https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/Welcome.html

**NEW QUESTION 128**
- (Exam Topic 1)
A retail company is operating its ecommerce application on AWS. The application runs on Amazon EC2 instances behind an Application Load Balancer (ALB). The company uses an Amazon RDS DB instance as the database backend. Amazon CloudFront is configured with one origin that points to the ALB. Static content is cached. Amazon Route 53 is used to host all public zones.
After an update of the application, the ALB occasionally returns a 502 status code (Bad Gateway) error. The root cause is malformed HTTP headers that are returned to the ALB. The webpage returns successfully when a solutions architect reloads the webpage immediately after the error occurs.
While the company is working on the problem, the solutions architect needs to provide a custom error page instead of the standard ALB error page to visitors.
Which combination of steps will meet this requirement with the LEAST amount of operational overhead? (Choose two.)

A. Create an Amazon S3 bucke
B. Configure the S3 bucket to host a static webpag
C. Upload the custom error pages to Amazon S3.
D. Create an Amazon CloudWatch alarm to invoke an AWS Lambda function if the ALB health check response Target.FailedHealthChecks is greater than 0. Configure the Lambda function to modify the forwarding rule at the ALB to point to a publicly accessible web server.
E. Modify the existing Amazon Route 53 records by adding health check
F. Configure a fallback target if the health check fail
G. Modify DNS records to point to a publicly accessible webpage.
H. Create an Amazon CloudWatch alarm to invoke an AWS Lambda function if the ALB health check response Elb.InternalError is greater than 0. Configure the Lambda function to modify the forwarding rule at the ALB to point to a public accessible web server.
I. Add a custom error response by configuring a CloudFront custom error pag
J. Modify DNS records to point to a publicly accessible web page.

**Answer:** CE

**Explanation:**
"Save your custom error pages in a location that is accessible to CloudFront. We recommend that you store them in an Amazon S3 bucket, and that you don't store them in the same place as the rest of your website or application's content. If you store the custom error pages on the same origin as your website or application, and the origin starts to return 5xx errors, CloudFront can't get the custom error pages because the origin server is unavailable."
https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/GeneratingCustomErrorResponses.htm

**NEW QUESTION 132**
- (Exam Topic 1)
A company with several AWS accounts is using AWS Organizations and service control policies (SCPs). An Administrator created the following SCP and has attached it to an organizational unit (OU) that contains AWS account 1111-1111-1111:

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "AllowsAllActions",
            "Effect": "Allow",
            "Action": "*",
            "Resource": "*"
        },
        {
            "Sid": "DenyCloudTrail",
            "Effect": "Deny",
            "Action": "cloudtrail:*",
            "Resource": "*"
        }
    ]
}
```

Developers working in account 1111-1111-1111 complain that they cannot create Amazon S3 buckets. How should the Administrator address this problem?

A. Add s3:CreateBucket with €Allow€ effect to the SCP.
B. Remove the account from the OU, and attach the SCP directly to account 1111-1111-1111.
C. Instruct the Developers to add Amazon S3 permissions to their IAM entities.
D. Remove the SCP from account 1111-1111-1111.

**Answer:** C

**Explanation:**
However A's explanation is incorrect - https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps.html
"SCPs are similar to AWS Identity and Access Management (IAM) permission policies and use almost the
same syntax. However, an SCP never grants permissions."
SCPs alone are not sufficient to granting permissions to the accounts in your organization. No permissions are granted by an SCP. An SCP defines a guardrail, or sets limits, on the actions that the account's administrator can delegate to the IAM users and roles in the affected accounts. The administrator must still attach identity-based or resource-based policies to IAM users or roles, or to the resources in your accounts to actually grant permissions. The effective permissions are the logical intersection between what is allowed by the SCP and what is allowed by the IAM and resource-based policies.

**NEW QUESTION 134**
- (Exam Topic 1)
A company is planning to host a web application on AWS and works to load balance the traffic across a group of Amazon EC2 instances. One of the security requirements is to enable end-to-end encryption in transit between the client and the web server.
Which solution will meet this requirement?

A. Place the EC2 instances behind an Application Load Balancer (ALB) Provision an SSL certificate using AWS Certificate Manager (ACM), and associate the SSL certificate with the AL
B. Export the SSL certificate and install it on each EC2 instanc
C. Configure the ALB to listen on port 443 and to forward traffic to port 443 on the instances.
D. Associate the EC2 instances with a target grou
E. Provision an SSL certificate using AWS Certificate Manager (ACM). Create an Amazon CloudFront distribution and configure It to use the SSL certificat
F. Set CloudFront to use the target group as the origin server
G. Place the EC2 instances behind an Application Load Balancer (ALB). Provision an SSL certificate using AWS Certificate Manager (ACM), and associate the SSL certificate with the AL
H. Provision athird-party SSL certificate and install it on each EC2 instanc
I. Configure the ALB to listen on port 443 and to forward traffic to port 443 on the instances.
J. Place the EC2 instances behind a Network Load Balancer (NLB). Provision a third-party SSL certificate and install it on the NLB and on each EC2 instanc
K. Configure the NLB to listen on port 443 and to forward traffic to port 443 on the instances.

**Answer:** A

**Explanation:**
Option A is correct because placing the EC2 instances behind an Application Load Balancer (ALB) and associating an SSL certificate from AWS Certificate Manager (ACM) with the ALB enables encryption in transit between the client and the ALB. Exporting the SSL certificate and installing it on each EC2 instance enables encryption in transit between the ALB and the web server. Configuring the ALB to listen on port 443 and to forward traffic to port 443 on the instances ensures that HTTPS is used for both connections. This solution achieves end-to-end encryption in transit for the web applicatio1n2
References: 1: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/introduction.html 2:

https://docs.aws.amazon.com/acm/latest/userguide/acm-overview.html 3: https://docs.aws.amazon.com/elasticloadbalancing/latest/application/load-balancer-target-groups.html : https://aws.amazon.com/certificate-manager/faqs/ : https://docs.aws.amazon.com/elasticloadbalancing/latest/network/introduction.html

**NEW QUESTION 135**
- (Exam Topic 1)
A company has an asynchronous HTTP application that is hosted as an AWS Lambda function. A public Amazon API Gateway endpoint invokes the Lambda function. The Lambda function and the API Gateway endpoint reside in the us-east-1 Region. A solutions architect needs to redesign the application to support failover to another AWS Region.
Which solution will meet these requirements?

A. Create an API Gateway endpoint in the us-west-2 Region to direct traffic to the Lambda function in us-east-1. Configure Amazon Route 53 to use a failover routing policy to route traffic for the two API Gateway endpoints.
B. Create an Amazon Simple Queue Service (Amazon SQS) queu
C. Configure API Gateway to direct traffic to the SQS queue instead of to the Lambda functio
D. Configure the Lambda function to pull messages from the queue for processing.
E. Deploy the Lambda function to the us-west-2 Regio
F. Create an API Gateway endpoint in us-west-2 to direct traffic to the Lambda function in us-west-2. Configure AWS Global Accelerator and an Application Load Balancer to manage traffic across the two API Gateway endpoints.
G. Deploy the Lambda function and an API Gateway endpoint to the us-west-2 Regio
H. Configure Amazon Route 53 to use a failover routing policy to route traffic for the two API Gateway endpoints.

**Answer:** B

**Explanation:**
This solution allows for deploying the Lambda function and API Gateway endpoint to another region, providing a failover option in case of any issues in the primary region. Using Route 53's failover routing policy allows for automatic routing of traffic to the healthy endpoint, ensuring that the application is available even in case of issues in one region. This solution provides a cost-effective and simple way to implement failover while minimizing operational overhead.

**NEW QUESTION 139**
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