



Amazon-Web-Services

Exam Questions SCS-C01

AWS Certified Security- Specialty

NEW QUESTION 1

An IT department currently has a Java web application deployed on Apache Tomcat running on Amazon EC2 instances. All traffic to the EC2 instances is sent through an internet-facing Application Load Balancer (ALB). The Security team has noticed during the past two days thousands of unusual read requests coming from hundreds of IP addresses. This is causing the Tomcat server to run out of threads and reject new connections. Which the SIMPLEST change that would address this server issue?

- A. Create an Amazon CloudFront distribution and configure the ALB as the origin
- B. Block the malicious IPs with a network access list (NACL).
- C. Create an IAM Web Application Firewall (WAF). and attach it to the ALB
- D. Map the application domain name to use Route 53

Answer: A

Explanation:

this is the simplest change that can address the server issue. CloudFront is a service that provides a global network of edge locations that cache and deliver web content. Creating a CloudFront distribution and configuring the ALB as the origin can help reduce the load on the Tomcat server by serving cached content to the end users. CloudFront can also provide protection against distributed denial-of-service (DDoS) attacks by filtering malicious traffic at the edge locations. The other options are either ineffective or complex for solving the server issue.

NEW QUESTION 2

A company deployed IAM Organizations to help manage its increasing number of IAM accounts. A security engineer wants to ensure only principals in the Organization structure can access a specific Amazon S3 bucket. The solution must also minimize operational overhead. Which solution will meet these requirements?

- A. 1 Put all users into an IAM group with an access policy granting access to the J bucket.
- B. Have the account creation trigger an IAM Lambda function that manages the bucket policy, allowing access to accounts listed in the policy only.
- C. Add an SCP to the Organizations master account, allowing all principals access to the bucket.
- D. Specify the organization ID in the global key condition element of a bucket policy, allowing all principals access.

Answer: D

NEW QUESTION 3

A company wants to prevent SSH access through the use of SSH key pairs for any Amazon Linux 2 Amazon EC2 instances in its AWS account. However, a system administrator occasionally will need to access these EC2 instances through SSH in an emergency. For auditing purposes, the company needs to record any commands that a user runs in an EC2 instance.

What should a security engineer do to configure access to these EC2 instances to meet these requirements?

- A. Use the EC2 serial console Configure the EC2 serial console to save all commands that are entered to an Amazon S3 bucket
- B. Provide the EC2 instances with an IAM role that allows the EC2 serial console to access Amazon S3. Configure an IAM account for the system administrator
- C. Provide an IAM policy that allows the IAM account to use the EC2 serial console.
- D. Use EC2 Instance Connect Configure EC2 Instance Connect to save all commands that are entered to Amazon CloudWatch Log
- E. Provide the EC2 instances with an IAM role that allows the EC2 instances to access CloudWatch Logs Configure an IAM account for the system administrator
- F. Provide an IAM policy that allows the IAM account to use EC2 Instance Connect.
- G. Use an EC2 key pair with an EC2 instance that needs SSH access Access the EC2 instance with this key pair by using SS
- H. Configure the EC2 instance to save all commands that are entered to Amazon CloudWatch Log
- I. Provide the EC2 instance with an IAM role that allows the EC2 instance to access Amazon S3 and CloudWatch Logs.
- J. Use AWS Systems Manager Session Manager Configure Session Manager to save all commands that are entered in a session to an Amazon S3 bucket
- K. Provide the EC2 instances with an IAM role that allows Systems Manager to manage the EC2 instance
- L. Configure an IAM account for the system administrator Provide an IAM policy that allows the IAM account to use Session Manager.

Answer: D

Explanation:

Open the AWS Systems Manager console at <https://console.aws.amazon.com/systems-manager/>. In the navigation pane, choose Session Manager. Choose the Preferences tab, and then choose Edit. Select the check box next to Enable under S3 logging. (Recommended) Select the check box next to Allow only encrypted S3 buckets. With this option turned on, log data is encrypted using the server-side encryption key specified for the bucket. If you don't want to encrypt the log data that is sent to Amazon S3, clear the check box. You must also clear the check box if encryption isn't allowed on the S3 bucket.

NEW QUESTION 4

A company needs to improve its ability to identify and prevent IAM policies that grant public access or cross-account access to resources. The company has implemented AWS Organizations and has started using AWS Identity and Access Management Access Analyzer to refine overly broad access to accounts in the organization.

A security engineer must automate a response in the company's organization for any newly created policies that are overly permissive. The automation must remediate external access and must notify the company's security team.

Which combination of steps should the security engineer take to meet these requirements? (Select THREE.)

- A. Create an AWS Step Functions state machine that checks the resource type in the finding and adds an explicit Deny statement in the trust policy for the IAM role
- B. Configure the state machine to publish a notification to an Amazon Simple Notification Service (Amazon SNS) topic.
- C. Create an AWS Batch job that forwards any resource type findings to an AWS Lambda function. Configure the Lambda function to add an explicit Deny statement in the trust policy for the IAM role
- D. Configure the AWS Batch job to publish a notification to an Amazon Simple Notification Service (Amazon SNS) topic.
- E. In Amazon EventBridge, create an event rule that matches active IAM Access Analyzer findings and invokes AWS Step Functions for resolution.
- F. In Amazon CloudWatch, create a metric filter that matches active IAM Access Analyzer findings and invokes AWS Batch for resolution.
- G. Create an Amazon Simple Queue Service (Amazon SQS) queue
- H. Configure the queue to forward a notification to the security team that an external principal has been granted access to the specific IAM role and has been blocked.
- I. Create an Amazon Simple Notification Service (Amazon SNS) topic for external or cross-account access notice

J. Subscribe the security team's email addresses to the topic.

Answer: ACF

Explanation:

The correct answer is A, C, and F.

To automate a response for any newly created policies that are overly permissive, the security engineer needs to use a combination of services that can monitor, analyze, remediate, and notify the security incidents.

Option A is correct because creating an AWS Step Functions state machine that checks the resource type in the finding and adds an explicit Deny statement in the trust policy for the IAM role is a valid way to remediate external access. AWS Step Functions is a service that allows you to coordinate multiple AWS services into serverless workflows. You can use Step Functions to invoke AWS Lambda functions, which can modify the IAM policies programmatically. You can also use Step Functions to publish a notification to an Amazon SNS topic, which can send messages to subscribers such as email addresses.

Option B is incorrect because creating an AWS Batch job that forwards any resource type findings to an AWS Lambda function is not a suitable way to automate a response. AWS Batch is a service that enables you to run batch computing workloads on AWS. Batch is designed for large-scale and long-running jobs that can benefit from parallelization and dynamic provisioning of compute resources. Batch is not intended for event-driven and real-time workflows that require immediate response.

Option C is correct because creating an Amazon EventBridge event rule that matches active IAM Access Analyzer findings and invokes AWS Step Functions for resolution is a valid way to monitor and analyze the security incidents. Amazon EventBridge is a serverless event bus service that allows you to connect your applications with data from various sources. EventBridge can use rules to match events and route them to targets for processing. You can use EventBridge to invoke AWS Step Functions state machines from the IAM Access Analyzer findings.

Option D is incorrect because creating an Amazon CloudWatch metric filter that matches active IAM Access Analyzer findings and invokes AWS Batch for resolution is not a suitable way to monitor and analyze the security incidents. Amazon CloudWatch is a service that provides monitoring and observability for your AWS resources and applications. CloudWatch can collect metrics, logs, and events from various sources and perform actions based on alarms or filters. However, CloudWatch cannot directly invoke AWS Batch jobs from the IAM Access Analyzer findings. You would need to use another service such as EventBridge or SNS to trigger the Batch job.

Option E is incorrect because creating an Amazon SQS queue that forwards a notification to the security team that an external principal has been granted access to the specific IAM role and has been blocked is not a valid way to notify the security incidents. Amazon SQS is a fully managed message queue service that enables you to decouple and scale microservices, distributed systems, and serverless applications. SQS can deliver messages to consumers that poll the queue for messages. However, SQS cannot directly forward a notification to the security team's email addresses. You would need to use another service such as SNS or SES to send email notifications.

Option F is correct because creating an Amazon SNS topic for external or cross-account access notices and subscribing the security team's email addresses to the topic is a valid way to notify the security incidents. Amazon SNS is a fully managed messaging service that enables you to decouple and scale microservices, distributed systems, and serverless applications. SNS can deliver messages to a variety of endpoints, such as email, SMS, or HTTP. You can use SNS to send email notifications to the security team when a critical security finding is detected.

References:

- AWS Step Functions
- AWS Batch
- Amazon EventBridge
- Amazon CloudWatch
- Amazon SQS
- Amazon SNS

NEW QUESTION 5

Company A has an AWS account that is named Account A. Company A recently acquired Company B, which has an AWS account that is named Account B.

Company B stores its files in an Amazon S3 bucket.

The administrators need to give a user from Account A full access to the S3 bucket in Account B.

After the administrators adjust the IAM permissions for the user in AccountA to access the S3 bucket in Account B, the user still cannot access any files in the S3 bucket.

Which solution will resolve this issue?

- A. In Account B, create a bucket ACL to allow the user from Account A to access the S3 bucket in Account B.
- B. In Account B, create an object ACL to allow the user from Account A to access all the objects in the S3 bucket in Account B.
- C. In Account B, create a bucket policy to allow the user from Account A to access the S3 bucket in Account B.
- D. In Account B, create a user policy to allow the user from Account A to access the S3 bucket in Account B.

Answer: C

Explanation:

A bucket policy is a resource-based policy that defines permissions for a specific S3 bucket. It can be used to grant cross-account access to another AWS account or an IAM user or role in another account. A bucket policy can also specify which actions, resources, and conditions are allowed or denied.

A bucket ACL is an access control list that grants basic read or write permissions to predefined groups of users. It cannot be used to grant cross-account access to a specific IAM user or role in another account.

An object ACL is an access control list that grants basic read or write permissions to predefined groups of users for a specific object in an S3 bucket. It cannot be used to grant cross-account access to a specific IAM user or role in another account.

A user policy is an IAM policy that defines permissions for an IAM user or role in the same account. It cannot be used to grant cross-account access to another AWS account or an IAM user or role in another account.

For more information, see Provide cross-account access to objects in Amazon S3 buckets and Example 2: Bucket owner granting cross-account bucket permissions.

NEW QUESTION 6

A company has an encrypted Amazon Aurora DB cluster in the us-east-1 Region. The DB cluster is encrypted with an AWS Key Management Service (AWS KMS) customer managed key. To meet compliance requirements, the company needs to copy a DB snapshot to the us-west-1 Region. However, when the company tries to copy the snapshot to us-west-1 the company cannot access the key that was used to encrypt the original database.

What should the company do to set up the snapshot in us-west-1 with proper encryption?

- A. Use AWS Secrets Manager to store the customer managed key in us-west-1 as a secret Use this secret to encrypt the snapshot in us-west-1.
- B. Create a new customer managed key in us-west-1. Use this new key to encrypt the snapshot in us-west-1.
- C. Create an IAM policy that allows access to the customer managed key in us-east-1. Specify `arn:aws:kms:us-east-1:*` as the principal.
- D. Create an IAM policy that allows access to the customer managed key in us-east-1. Specify `arn:aws:kms:us-west-1:*` as the principal.

Answer: B

Explanation:

"If you copy an encrypted snapshot across Regions, you must specify a KMS key valid in the destination AWS Region. It can be a Region-specific KMS key, or a multi-Region key." <https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/aurora-copy-snapshot.html#aurora-copy-sna>

NEW QUESTION 7

A security engineer wants to use Amazon Simple Notification Service (Amazon SNS) to send email alerts to a company's security team for Amazon GuardDuty findings that have a High severity level. The security engineer also wants to deliver these findings to a visualization tool for further examination. Which solution will meet these requirements?

- A. Set up GuardDuty to send notifications to an Amazon CloudWatch alarm with two targets in CloudWatc
- B. From CloudWatch, stream the findings through Amazon Kinesis Data Streams into an Amazon OpenSearch Service domain as the first target for deliver
- C. Use Amazon QuickSight to visualize the finding
- D. Use OpenSearch queries for further analysi
- E. Deliver email alerts to the security team by configuring an SNS topic as a second target for the CloudWatch alar
- F. Use event pattern matching with an Amazon EventBridge event rule to send only High severity findings in the alerts.
- G. Set up GuardDuty to send notifications to AWS CloudTrail with two targets in CloudTrai
- H. From CloudTrail, stream the findings through Amazon Kinesis Data Firehose into an Amazon OpenSearch Service domain as the first target for deliver
- I. Use OpenSearch Dashboards to visualize the finding
- J. Use OpenSearch queries for further analysi
- K. Deliver email alerts to the security team by configuring an SNS topic as a second target for CloudTrai
- L. Use event pattern matching with a CloudTrail event rule to send only High severity findings in the alerts.
- M. Set up GuardDuty to send notifications to Amazon EventBridge with two target
- N. From EventBridge, stream the findings through Amazon Kinesis Data Firehose into an Amazon OpenSearch Service domain as the first target for deliver
- O. Use OpenSearch Dashboards to visualize the finding
- P. Use OpenSearch queries for further analysi
- Q. Deliver email alerts to the security team by configuring an SNS topic as a second target for EventBridg
- R. Use event pattern matching with an EventBridge event rule to send only High severity findings in the alerts.
- S. Set up GuardDuty to send notifications to Amazon EventBridge with two target
- T. From EventBridge, stream the findings through Amazon Kinesis Data Streams into an Amazon OpenSearch Service domain as the first target for deliver
- . Use Amazon QuickSight to visualize the finding
- . Use OpenSearch queries for further analysi
- . Deliver email alerts to the security team by configuring an SNS topic as a second target for EventBridg
- . Use event pattern matching with an EventBridge event rule to send only High severity findings in the alerts.

Answer: C

NEW QUESTION 8

A large corporation is creating a multi-account strategy and needs to determine how its employees should access the IAM infrastructure. Which of the following solutions would provide the MOST scalable solution?

- A. Create dedicated IAM users within each IAM account that employees can assume through federationbased upon group membership in their existing identity provider
- B. Use a centralized account with IAM roles that employees can assume through federation with their existing identity provider Use cross-account roles to allow the federated users to assume their target role in the resource accounts.
- C. Configure the IAM Security Token Service to use Kerberos tokens so that users can use their existing corporate user names and passwords to access IAM resources directly
- D. Configure the IAM trust policies within each account's role to set up a trust back to the corporation's existing identity provider allowing users to assume the role based off their SAML token

Answer: B

Explanation:

the most scalable solution for accessing the IAM infrastructure in a multi-account strategy. A multi-account strategy is a way of organizing your AWS resources into multiple IAM accounts for security, billing, and management purposes. Federation is a process that allows users to access AWS resources using credentials from an external identity provider such as Active Directory or SAML. IAM roles are sets of permissions that grant access to AWS resources. Cross-account roles are IAM roles that allow users in one account to access resources in another account. By using a centralized account with IAM roles that employees can assume through federation with their existing identity provider, you can simplify and streamline the access management process. By using cross-account roles to allow the federated users to assume their target role in the resource accounts, you can enable granular and flexible access control across multiple accounts. The other options are either less scalable or less secure for accessing the IAM infrastructure in a multi-account strategy.

NEW QUESTION 9

A company uses SAML federation to grant users access to AWS accounts. A company workload that is in an isolated AWS account runs on immutable infrastructure with no human access to Amazon EC2. The company requires a specialized user known as a break glass user to have access to the workload AWS account and instances in the case of SAML errors. A recent audit discovered that the company did not create the break glass user for the AWS account that contains the workload.

The company must create the break glass user. The company must log any activities of the break glass user and send the logs to a security team. Which combination of solutions will meet these requirements? (Select TWO.)

- A. Create a local individual break glass IAM user for the security tea
- B. Create a trail in AWS CloudTrail that has Amazon CloudWatch Logs turned o
- C. Use Amazon EventBridge to monitor local user activities.
- D. Create a break glass EC2 key pair for the AWS accoun
- E. Provide the key pair to the security tea
- F. Use AWS CloudTrail to monitor key pair activit
- G. Send notifications to the security team by using Amazon Simple Notification Service (Amazon SNS).
- H. Create a break glass IAM role for the accoun
- I. Allow security team members to perform the AssumeRoleWithSAML operatio

- J. Create an AWS Cloud Trail trail that has Amazon CloudWatch Logs turned on.
- K. Use Amazon EventBridge to monitor security team activities.
- L. Create a local individual break glass IAM user on the operating system level of each workload instance. Configure unrestricted security groups on the instances to grant access to the break glass IAM users.
- M. Configure AWS Systems Manager Session Manager for Amazon EC2. Configure an AWS Cloud Trail filter based on Session Manager.
- N. Send the results to an Amazon Simple Notification Service (Amazon SNS) topic.

Answer: AE

Explanation:

The combination of solutions that will meet the requirements are:

- A. Create a local individual break glass IAM user for the security team. Create a trail in AWS CloudTrail that has Amazon CloudWatch Logs turned on. Use Amazon EventBridge to monitor local user activities. This is a valid solution because it allows the security team to access the workload AWS account and instances using a local IAM user that does not depend on SAML federation. It also enables logging and monitoring of the break glass user activities using AWS CloudTrail, Amazon CloudWatch Logs, and Amazon EventBridge123.
- E. Configure AWS Systems Manager Session Manager for Amazon EC2. Configure an AWS CloudTrail filter based on Session Manager. Send the results to an Amazon Simple Notification Service (Amazon SNS) topic. This is a valid solution because it allows the security team to access the workload instances without opening any inbound ports or managing SSH keys or bastion hosts. It also enables logging and notification of the break glass user activities using AWS CloudTrail, Session Manager, and Amazon SNS456.

The other options are incorrect because:

- B. Creating a break glass EC2 key pair for the AWS account and providing it to the security team is not a valid solution, because it requires opening inbound ports on the instances and managing SSH keys, which increases the security risk and complexity7.
- C. Creating a break glass IAM role for the account and allowing security team members to perform the AssumeRoleWithSAML operation is not a valid solution, because it still depends on SAML federation, which might not work in case of SAML errors8.
- D. Creating a local individual break glass IAM user on the operating system level of each workload instance and configuring unrestricted security groups on the instances to grant access to the break glass IAM users is not a valid solution, because it requires opening inbound ports on the instances and managing multiple local users, which increases the security risk and complexity9.

References:

1: Creating an IAM User in Your AWS Account 2: Creating a Trail - AWS CloudTrail 3: Using Amazon EventBridge with AWS CloudTrail 4: Setting up Session Manager - AWS Systems Manager 5: Logging Session Manager sessions - AWS Systems Manager 6: Amazon Simple Notification Service 7: Connecting to your Linux instance using SSH - Amazon Elastic Compute Cloud 8: AssumeRoleWithSAML - AWS Security Token Service 9: IAM Users - AWS Identity and Access Management

NEW QUESTION 10

A security team is developing an application on an Amazon EC2 instance to get objects from an Amazon S3 bucket. All objects in the S3 bucket are encrypted with an AWS Key Management Service (AWS KMS) customer managed key. All network traffic for requests that are made within the VPC is restricted to the AWS infrastructure. This traffic does not traverse the public internet.

The security team is unable to get objects from the S3 bucket Which factors could cause this issue? (Select THREE.)

- A. The IAM instance profile that is attached to the EC2 instance does not allow the s3 ListBucket action to the S3: bucket in the AWS accounts.
- B. The IAM instance profile that is attached to the EC2 instance does not allow the s3 ListParts action to the S3: bucket in the AWS accounts.
- C. The KMS key policy that encrypts the object in the S3 bucket does not allow the kms: ListKeys action to the EC2 instance profile ARN.
- D. The KMS key policy that encrypts the object in the S3 bucket does not allow the kms Decrypt action to the EC2 instance profile ARN.
- E. The security group that is attached to the EC2 instance is missing an outbound rule to the S3 managed prefix list over port 443.
- F. The security group that is attached to the EC2 instance is missing an inbound rule from the S3 managed prefix list over port 443.

Answer: ADE

Explanation:

<https://docs.aws.amazon.com/vpc/latest/userguide/security-group-rules.html>

To get objects from an S3 bucket that are encrypted with a KMS customer managed key, the security team needs to have the following factors in place:

- The IAM instance profile that is attached to the EC2 instance must allow the s3:GetObject action to the S3 bucket or object in the AWS account. This permission is required to read the object from S3. Option A is incorrect because it specifies the s3:ListBucket action, which is only required to list the objects in the bucket, not to get them.
- The KMS key policy that encrypts the object in the S3 bucket must allow the kms:Decrypt action to the EC2 instance profile ARN. This permission is required to decrypt the object using the KMS key. Option D is correct.
- The security group that is attached to the EC2 instance must have an outbound rule to the S3 managed prefix list over port 443. This rule is required to allow HTTPS traffic from the EC2 instance to S3 within the AWS infrastructure. Option E is correct. Option B is incorrect because it specifies the s3:ListParts action, which is only required for multipart uploads, not for getting objects. Option C is incorrect because it specifies the kms:ListKeys action, which is not required for getting objects. Option F is incorrect because it specifies an inbound rule from the S3 managed prefix list, which is not required for getting objects. Verified References:

➤ <https://docs.aws.amazon.com/kms/latest/developerguide/control-access.html>

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

NEW QUESTION 10

A company is building an application on AWS that will store sensitive information. The company has a support team with access to the IT infrastructure, including databases. The company's security engineer must introduce measures to protect the sensitive data against any data breach while minimizing management overhead. The credentials must be regularly rotated.

What should the security engineer recommend?

- A. Enable Amazon RDS encryption to encrypt the database and snapshot
- B. Enable Amazon Elastic Block Store (Amazon EBS) encryption on Amazon EC2 instance
- C. Include the database credential in the EC2 user data field
- D. Use an AWS Lambda function to rotate database credential
- E. Set up TLS for the connection to the database.
- F. Install a database on an Amazon EC2 instance
- G. Enable third-party disk encryption to encrypt Amazon Elastic Block Store (Amazon EBS) volume

- H. Store the database credentials in AWS CloudHSM with automatic rotation
- I. Set up TLS for the connection to the database.
- J. Enable Amazon RDS encryption to encrypt the database and snapshot
- K. Enable Amazon Elastic Block Store (Amazon EBS) encryption on Amazon EC2 instance
- L. Store the database credentials in AWS Secrets Manager with automatic rotation
- M. Set up TLS for the connection to the RDS hosted database.
- N. Set up an AWS CloudHSM cluster with AWS Key Management Service (AWS KMS) to store KMS key
- O. Set up Amazon RDS encryption using AWS KMS to encrypt the database
- P. Store the database credentials in AWS Systems Manager Parameter Store with automatic rotation
- Q. Set up TLS for the connection to the RDS hosted database.

Answer: C

NEW QUESTION 11

A company is attempting to conduct forensic analysis on an Amazon EC2 instance, but the company is unable to connect to the instance by using AWS Systems Manager Session Manager. The company has installed AWS Systems Manager Agent (SSM Agent) on the EC2 instance. The EC2 instance is in a subnet in a VPC that does not have an internet gateway attached. The company has associated a security group with the EC2 instance. The security group does not have inbound or outbound rules. The subnet's network ACL allows all inbound and outbound traffic. Which combination of actions will allow the company to conduct forensic analysis on the EC2 instance without compromising forensic data? (Select THREE.)

- A. Update the EC2 instance security group to add a rule that allows outbound traffic on port 443 for 0.0.0.0/0.
- B. Update the EC2 instance security group to add a rule that allows inbound traffic on port 443 to the VPC's CIDR range.
- C. Create an EC2 key pair
- D. Associate the key pair with the EC2 instance.
- E. Create a VPC interface endpoint for Systems Manager in the VPC where the EC2 instance is located.
- F. Attach a security group to the VPC interface endpoint
- G. Allow inbound traffic on port 443 to the VPC's CIDR range.
- H. Create a VPC interface endpoint for the EC2 instance in the VPC where the EC2 instance is located.

Answer: BCF

NEW QUESTION 12

Which of the following are valid configurations for using SSL certificates with Amazon CloudFront? (Select THREE)

- A. Default AWS Certificate Manager certificate
- B. Custom SSL certificate stored in AWS KMS
- C. Default CloudFront certificate
- D. Custom SSL certificate stored in AWS Certificate Manager
- E. Default SSL certificate stored in AWS Secrets Manager
- F. Custom SSL certificate stored in AWS IAM

Answer: ABC

Explanation:

The key length for an RSA certificate that you use with CloudFront is 2048 bits, even though ACM supports larger keys. If you use an imported certificate with CloudFront, your key length must be 1024 or 2048 bits and cannot exceed 2048 bits. You must import the certificate in the US East (N. Virginia) Region. You must have permission to use and import the SSL/TLS certificate
<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/cnames-and-https-requirements.html>

NEW QUESTION 16

A security engineer recently rotated all IAM access keys in an AWS account. The security engineer then configured AWS Config and enabled the following AWS Config managed rules; mfa-enabled-for-iam-console-access, iam-user-mfa-enabled, access-key-rotated, and iam-user-unused-credentials-check. The security engineer notices that all resources are displaying as noncompliant after the IAM GenerateCredentialReport API operation is invoked. What could be the reason for the noncompliant status?

- A. The IAM credential report was generated within the past 4 hours.
- B. The security engineer does not have the GenerateCredentialReport permission.
- C. The security engineer does not have the GetCredentialReport permission.
- D. The AWS Config rules have a MaximumExecutionFrequency value of 24 hours.

Answer: D

Explanation:

The correct answer is D. The AWS Config rules have a MaximumExecutionFrequency value of 24 hours. According to the AWS documentation¹, the MaximumExecutionFrequency parameter specifies the maximum frequency with which AWS Config runs evaluations for a rule. For AWS Config managed rules, this value can be one of the following:

- One_Hour
- Three_Hours
- Six_Hours
- Twelve_Hours
- TwentyFour_Hours

If the rule is triggered by configuration changes, it will still run evaluations when AWS Config delivers the configuration snapshot. However, if the rule is triggered periodically, it will not run evaluations more often than the specified frequency.

In this case, the security engineer enabled four AWS Config managed rules that are triggered periodically. Therefore, these rules will only run evaluations every 24 hours, regardless of when the IAM credential report is generated. This means that the resources will display as noncompliant until the next evaluation cycle, which could take up to 24 hours after the IAM access keys are rotated.

The other options are incorrect because:

- A. The IAM credential report can be generated at any time, but it will not affect the compliance status of the resources until the next evaluation cycle of the

AWS Config rules.

- B. The security engineer was able to invoke the IAM GenerateCredentialReport API operation, which means they have the GenerateCredentialReport permission. This permission is required to generate a credential report that lists all IAM users in an AWS account and their credential status2.
- C. The security engineer does not need the GetCredentialReport permission to enable or evaluate AWS Config rules. This permission is required to retrieve a credential report that was previously generated by using the GenerateCredentialReport operation2.

References:

1: AWS::Config::ConfigRule - AWS CloudFormation 2: IAM: Generate and retrieve IAM credential reports

NEW QUESTION 20

A company uses AWS Organizations to manage several AWS accounts. The company processes a large volume of sensitive data. The company uses a serverless approach to microservices. The company stores all the data in either Amazon S3 or Amazon DynamoDB. The company reads the data by using either AWS Lambda functions or container-based services that the company hosts on Amazon Elastic Kubernetes Service (Amazon EKS) on AWS Fargate. The company must implement a solution to encrypt all the data at rest and enforce least privilege data access controls. The company creates an AWS Key Management Service (AWS KMS) customer managed key. What should the company do next to meet these requirements?

- A. Create a key policy that allows the kms:Decrypt action only for Amazon S3 and DynamoDB
- B. Create an SCP that denies the creation of S3 buckets and DynamoDB tables that are not encrypted with the key.
- C. Create an IAM policy that denies the kms:Decrypt action for the key
- D. Create a Lambda function that runs on a schedule to attach the policy to any new role
- E. Create an AWS Config rule to send alerts for resources that are not encrypted with the key.
- F. Create a key policy that allows the kms:Decrypt action only for Amazon S3, DynamoDB, Lambda, and Amazon EKS
- G. Create an SCP that denies the creation of S3 buckets and DynamoDB tables that are not encrypted with the key.
- H. Create a key policy that allows the kms:Decrypt action only for Amazon S3, DynamoDB, Lambda, and Amazon EKS
- I. Create an AWS Config rule to send alerts for resources that are not encrypted with the key.

Answer: B

NEW QUESTION 25

A security engineer is using AWS Organizations and wants to optimize SCPs. The security engineer needs to ensure that the SCPs conform to best practices. Which approach should the security engineer take to meet this requirement?

- A. Use AWS IAM Access Analyzer to analyze the policies
- B. View the findings from policy validation checks.
- C. Review AWS Trusted Advisor checks for all accounts in the organization.
- D. Set up AWS Audit Manager
- E. Run an assessment for all AWS Regions for all accounts.
- F. Ensure that Amazon Inspector agents are installed on all Amazon EC2 instances in all accounts.

Answer: A

NEW QUESTION 26

A company created an IAM account for its developers to use for testing and learning purposes. Because the IAM account will be shared among multiple teams of developers, the company wants to restrict the ability to stop and terminate Amazon EC2 instances so that a team can perform these actions only on the instances it owns.

Developers were instructed to tag all their instances with a Team tag key and use the team name in the tag value. One of the first teams to use this account is Business Intelligence. A security engineer needs to develop a highly scalable solution for providing developers with access to the appropriate resources within the account. The security engineer has already created individual IAM roles for each team. Which additional configuration steps should the security engineer take to complete the task?

- A. For each team, create an IAM policy similar to the one that follows. Populate the ec2:ResourceTag/Team condition key with a proper team name. Attach resulting policies to the corresponding IAM roles.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*",
      "Condition": {
        "StringEquals": {
          "ec2:ResourceTag/Team": "BusinessIntelligence"
        }
      }
    }
  ]
}
```

- B. For each team, create an IAM policy similar to the one that follows. Populate the IAM TagKeys/Team condition key with a proper team name.
- C. Attach the resulting policies to the corresponding IAM roles.


```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*",
      "Condition": {
        "ForAnyValue:StringEquals": {
          "aws:TagKeys/Team": "BusinessIntelligence"
        }
      }
    }
  ]
}
```

- D. Tag each IAM role with a Team tag ke
 E. and use the team name in the tag valu
 F. Create an IAM policy similar to the one that follows, and attach 4 to all the IAM roles used by developers.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*",
      "Condition": {
        "StringEquals": {
          "ec2:ResourceTag/Team": "${aws:PrincipalTag/Team}"
        }
      }
    }
  ]
}
```

- G. Tag each IAM role with the Team key, and use the team name in the tag valu
 H. Create an IAM policy similar to the one that follows, and it to all the IAM roles used by developers.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "ec2:StopInstances",
        "ec2:TerminateInstances"
      ],
      "Resource": "*",
      "Condition": {
        "ForAnyValue:StringEquals": {
          "aws:TagKeys/Team": "${aws:PrincipalTag/Team}"
        }
      }
    }
  ]
}
```

Answer: A

NEW QUESTION 28

A company uses Amazon GuardDuty. The company's security team wants all High severity findings to automatically generate a ticket in a third-party ticketing system through email integration.

Which solution will meet this requirement?

- A. Create a verified identity for the third-party ticketing email system in Amazon Simple Email Service (Amazon SES). Create an Amazon EventBridge rule that includes an event pattern that matches High severity GuardDuty finding
- B. Specify the SES identity as the target for the EventBridge rule.
- C. Create an Amazon Simple Notification Service (Amazon SNS) topic
- D. Subscribe the third-party ticketing email system to the SNS topic
- E. Create an Amazon EventBridge rule that includes an event pattern that matches High severity GuardDuty finding
- F. Specify the SNS topic as the target for the EventBridge rule.
- G. Use the GuardDuty CreateFilter API operation to build a filter in GuardDuty to monitor for High severity finding
- H. Export the results of the filter to an Amazon Simple Notification Service (Amazon SNS) topic
- I. Subscribe the third-party ticketing email system to the SNS topic.
- J. Use the GuardDuty CreateFilter API operation to build a filter in GuardDuty to monitor for High severity finding
- K. Create an Amazon Simple Notification Service (Amazon SNS) topic
- L. Subscribe the third-party ticketing email system to the SNS topic
- M. Create an Amazon EventBridge rule that includes an event pattern that matches GuardDuty findings that are selected by the filter
- N. Specify the SNS topic as the target for the EventBridge rule.

Answer: B

Explanation:

The correct answer is B. Create an Amazon Simple Notification Service (Amazon SNS) topic. Subscribe the third-party ticketing email system to the SNS topic. Create an Amazon EventBridge rule that includes an event pattern that matches High severity GuardDuty findings. Specify the SNS topic as the target for the EventBridge rule.

According to the AWS documentation¹, you can use Amazon EventBridge to create rules that match events from GuardDuty and route them to targets such as

Amazon SNS topics. You can use event patterns to filter events based on criteria such as severity, type, or resource. For example, you can create a rule that matches only High severity findings and sends them to an SNS topic that is subscribed by a third-party ticketing email system. This way, you can automate the creation of tickets for High severity findings and notify the security team.

NEW QUESTION 30

A company has a single AWS account and uses an Amazon EC2 instance to test application code. The company recently discovered that the instance was compromised. The instance was serving up malware. The analysis of the instance showed that the instance was compromised 35 days ago.

A security engineer must implement a continuous monitoring solution that automatically notifies the company's security team about compromised instances through an email distribution list for high severity findings. The security engineer must implement the solution as soon as possible.

Which combination of steps should the security engineer take to meet these requirements? (Choose three.)

- A. Enable AWS Security Hub in the AWS account.
- B. Enable Amazon GuardDuty in the AWS account.
- C. Create an Amazon Simple Notification Service (Amazon SNS) topic.
- D. Subscribe the security team's email distribution list to the topic.
- E. Create an Amazon Simple Queue Service (Amazon SQS) queue.
- F. Subscribe the security team's email distribution list to the queue.
- G. Create an Amazon EventBridge (Amazon CloudWatch Events) rule for GuardDuty findings of high severity.
- H. Configure the rule to publish a message to the topic.
- I. Create an Amazon EventBridge (Amazon CloudWatch Events) rule for Security Hub findings of high severity.
- J. Configure the rule to publish a message to the queue.

Answer: BCE

NEW QUESTION 32

A company wants to remove all SSH keys permanently from a specific subset of its Amazon Linux 2 Amazon EC2 instances that are using the same IAM instance profile. However, three individuals who have IAM user accounts will need to access these instances by using an SSH session to perform critical duties.

How can a security engineer provide the access to meet these requirements?

- A. Assign an IAM policy to the instance profile to allow the EC2 instances to be managed by AWS Systems Manager. Provide the IAM user accounts with permission to use Systems Manager. Remove the SSH keys from the EC2 instances. Use Systems Manager Inventory to select the EC2 instance and connect.
- B. Assign an IAM policy to the IAM user accounts to provide permission to use AWS Systems Manager Run Command. Remove the SSH keys from the EC2 instances. Use Run Command to open an SSH connection to the EC2 instance.
- C. Assign an IAM policy to the instance profile to allow the EC2 instances to be managed by AWS Systems Manager. Provide the IAM user accounts with permission to use Systems Manager. Remove the SSH keys from the EC2 instances. Use Systems Manager Session Manager to select the EC2 instance and connect.
- D. Assign an IAM policy to the IAM user accounts to provide permission to use the EC2 service in the AWS Management Console. Remove the SSH keys from the EC2 instances. Connect to the EC2 instance as the ec2-user through the AWS Management Console's EC2 SSH client method.

Answer: C

Explanation:

To provide access to the three individuals who have IAM user accounts to access the Amazon Linux 2 Amazon EC2 instances that are using the same IAM instance profile, the most appropriate solution would be to assign an IAM policy to the instance profile to allow the EC2 instances to be managed by AWS Systems Manager, provide the IAM user accounts with permission to use Systems Manager, remove the SSH keys from the EC2 instances, and use Systems Manager Session Manager to select the EC2 instance and connect.

References: : AWS Systems Manager Session Manager - AWS Systems Manager : AWS Systems Manager AWS Management Console : AWS Identity and Access Management - AWS Management Console : Amazon Elastic Compute Cloud - Amazon Web Services : Amazon Linux 2 - Amazon Web Services : AWS Systems Manager - AWS Management Console : AWS Systems Manager - AWS Management Console : AWS Systems Manager - AWS Management Console

NEW QUESTION 37

A company deployed Amazon GuardDuty in the us-east-1 Region. The company wants all DNS logs that relate to the company's Amazon EC2 instances to be inspected. What should a security engineer do to ensure that the EC2 instances are logged?

- A. Use IPv6 addresses that are configured for hostnames.
- B. Configure external DNS resolvers as internal resolvers that are visible only to IAM.
- C. Use IAM DNS resolvers for all EC2 instances.
- D. Configure a third-party DNS resolver with logging for all EC2 instances.

Answer: C

Explanation:

To ensure that the EC2 instances are logged, the security engineer should do the following:

- Use AWS DNS resolvers for all EC2 instances. This allows the security engineer to use Amazon-provided DNS servers that resolve public DNS hostnames to private IP addresses within their VPC, and that log DNS queries in Amazon CloudWatch Logs.

NEW QUESTION 41

A company is planning to use Amazon Elastic File System (Amazon EFS) with its on-premises servers. The company has an existing IAM Direct Connect connection established between its on-premises data center and an IAM Region. Security policy states that the company's on-premises firewall should only have specific IP addresses added to the allow list and not a CIDR range. The company also wants to restrict access so that only certain data center-based servers have access to Amazon EFS.

How should a security engineer implement this solution?

- A. Add the file-system-id efs IAM-region amazonIAM.com URL to the allow list for the data center firewall. Install the IAM CLI on the data center-based servers to mount the EFS file system in the EFS security group. Add the data center IP range to the allow list. Mount the EFS using the EFS file system name.
- B. Assign an Elastic IP address to Amazon EFS and add the Elastic IP address to the allow list for the data center firewall. Install the IAM CLI on the data center-based servers to mount the EFS file system. In the EFS security group, add the IP addresses of the data center servers to the allow list. Mount the EFS using the

Elastic IP address

- C. Add the EFS file system mount target IP addresses to the allow list for the data center firewall In the EFS security group, add the data center server IP addresses to the allow list Use the Linux terminal to mount the EFS file system using the IP address of one of the mount targets
- D. Assign a static range of IP addresses for the EFS file system by contacting IAM Support In the EFS security group add the data center server IP addresses to the allow list Use the Linux terminal to mount the EFS file system using one of the static IP addresses

Answer: B

Explanation:

To implement the solution, the security engineer should do the following:

- Assign an Elastic IP address to Amazon EFS and add the Elastic IP address to the allow list for the data center firewall. This allows the security engineer to use a specific IP address for the EFS file system that can be added to the firewall rules, instead of a CIDR range or a URL.
- Install the AWS CLI on the data center-based servers to mount the EFS file system. This allows the security engineer to use the mount helper provided by AWS CLI to mount the EFS file system with encryption in transit.
- In the EFS security group, add the IP addresses of the data center servers to the allow list. This allows the security engineer to restrict access to the EFS file system to only certain data center-based servers.
- Mount the EFS using the Elastic IP address. This allows the security engineer to use the Elastic IP address as the DNS name for mounting the EFS file system.

NEW QUESTION 45

A company has recently recovered from a security incident that required the restoration of Amazon EC2 instances from snapshots. After performing a gap analysis of its disaster recovery procedures and backup strategies, the company is concerned that, next time, it will not be able to recover the EC2 instances if the AWS account was compromised and Amazon EBS snapshots were deleted. All EBS snapshots are encrypted using an AWS KMS CMK. Which solution would solve this problem?

- A. Create a new Amazon S3 bucket
- B. Use EBS lifecycle policies to move EBS snapshots to the new S3 bucket
- C. Move snapshots to Amazon S3 Glacier using lifecycle policies, and apply Glacier Vault Lock policies to prevent deletion.
- D. Use AWS Systems Manager to distribute a configuration that performs local backups of all attached disks to Amazon S3.
- E. Create a new AWS account with limited privilege
- F. Allow the new account to access the AWS KMS key used to encrypt the EBS snapshots, and copy the encrypted snapshots to the new account on a recurring basis.
- G. Use AWS Backup to copy EBS snapshots to Amazon S3.

Answer: C

Explanation:

This answer is correct because creating a new AWS account with limited privileges would provide an isolated and secure backup destination for the EBS snapshots. Allowing the new account to access the AWS KMS key used to encrypt the EBS snapshots would enable cross-account snapshot sharing without requiring re-encryption. Copying the encrypted snapshots to the new account on a recurring basis would ensure that the backups are up-to-date and consistent.

NEW QUESTION 49

Your CTO thinks your IAM account was hacked. What is the only way to know for certain if there was unauthorized access and what they did, assuming your hackers are very sophisticated IAM engineers and doing everything they can to cover their tracks? Please select:

- A. Use CloudTrail Log File Integrity Validation.
- B. Use IAM Config SNS Subscriptions and process events in real time.
- C. Use CloudTrail backed up to IAM S3 and Glacier.
- D. Use IAM Config Timeline forensics.

Answer: A

Explanation:

The IAM Documentation mentions the following

To determine whether a log file was modified, deleted, or unchanged after CloudTrail delivered it you can use CloudTrail log file integrity validation. This feature is built using industry standard algorithms: SHA-256 for hashing and SHA-256 with RSA for digital signing. This makes it computationally infeasible to modify, delete or forge CloudTrail log files without detection. You can use the IAM CLI to validate the files in the location where CloudTrail delivered them

Validated log files are invaluable in security and forensic investigations. For example, a validated log file enables you to assert positively that the log file itself has not changed, or that particular user credentials performed specific API activity. The CloudTrail log file integrity validation process also lets you know if a log file has been deleted or changed, or assert positively that no log files were delivered to your account during a given period of time.

Options B.C and D is invalid because you need to check for log File Integrity Validation for cloudtrail logs For more information on Cloudtrail log file validation, please visit the below URL: <http://docs.IAM.amazon.com/IAMcloudtrail/latest/userguide/cloudtrail-log-file-validation-intro.html>

The correct answer is: Use CloudTrail Log File Integrity Validation. omit your Feedback/Queries to our Expert

NEW QUESTION 52

A startup company is using a single AWS account that has resources in a single AWS Region. A security engineer configures an AWS Cloud Trail trail in the same Region to deliver log files to an Amazon S3 bucket by using the AWS CLI.

Because of expansion, the company adds resources in multiple Regions. The security engineer notices that the logs from the new Regions are not reaching the S3 bucket.

What should the security engineer do to fix this issue with the LEAST amount of operational overhead?

- A. Create a new CloudTrail trail
- B. Select the new Regions where the company added resources.
- C. Change the S3 bucket to receive notifications to track all actions from all Regions.
- D. Create a new CloudTrail trail that applies to all Regions.
- E. Change the existing CloudTrail trail so that it applies to all Regions.

Answer: D

Explanation:

The correct answer is D. Change the existing CloudTrail trail so that it applies to all Regions.

According to the AWS documentation¹, you can configure CloudTrail to deliver log files from multiple Regions to a single S3 bucket for a single account. To change an existing single-Region trail to log in all Regions, you must use the AWS CLI and add the `--is-multi-region-trail` option to the `update-trail` command². This will ensure that you log global service events and capture all management event activity in your account.

Option A is incorrect because creating a new CloudTrail trail for each Region will incur additional costs and increase operational overhead. Option B is incorrect because changing the S3 bucket to receive notifications will not affect the delivery of log files from other Regions. Option C is incorrect because creating a new CloudTrail trail that applies to all Regions will result in duplicate log files for the original Region and also incur additional costs.

NEW QUESTION 54

A security engineer must use AWS Key Management Service (AWS KMS) to design a key management solution for a set of Amazon Elastic Block Store (Amazon EBS) volumes that contain sensitive data. The solution needs to ensure that the key material automatically expires in 90 days.

Which solution meets these criteria?

- A. A customer managed CMK that uses customer provided key material
- B. A customer managed CMK that uses AWS provided key material
- C. An AWS managed CMK
- D. Operation system-native encryption that uses GnuPG

Answer: A

Explanation:

<https://awscli.amazonaws.com/v2/documentation/api/latest/reference/kms/import-key-material.html> `aws kms import-key-material \`

`--key-id 1234abcd-12ab-34cd-56ef-1234567890ab \`

`--encrypted-key-material fileb://EncryptedKeyMaterial.bin \`

`--import-token fileb://ImportToken.bin \`

`--expiration-model KEY_MATERIAL_EXPIRES \`

`--valid-to 2021-09-21T19:00:00Z`

The correct answer is A. A customer managed CMK that uses customer provided key material.

A customer managed CMK is a KMS key that you create, own, and manage in your AWS account. You have full control over the key configuration, permissions, rotation, and deletion. You can use a customer managed CMK to encrypt and decrypt data in AWS services that are integrated with AWS KMS, such as Amazon EBS¹.

A customer managed CMK can use either AWS provided key material or customer provided key material. AWS provided key material is generated by AWS KMS and never leaves the service unencrypted. Customer provided key material is generated outside of AWS KMS and imported into a customer managed CMK. You can specify an expiration date for the imported key material, after which the CMK becomes unusable until you reimport new key material².

To meet the criteria of automatically expiring the key material in 90 days, you need to use customer provided key material and set the expiration date accordingly. This way, you can ensure that the data encrypted with the CMK will not be accessible after 90 days unless you reimport new key material and re-encrypt the data.

The other options are incorrect for the following reasons:

* B. A customer managed CMK that uses AWS provided key material does not expire automatically. You can enable automatic rotation of the key material every year, but this does not prevent access to the data encrypted with the previous key material. You would need to manually delete the CMK and its backing key material to make the data inaccessible³.

* C. An AWS managed CMK is a KMS key that is created, owned, and managed by an AWS service on your behalf. You have limited control over the key configuration, permissions, rotation, and deletion. You cannot use an AWS managed CMK to encrypt data in other AWS services or applications. You also cannot set an expiration date for the key material of an AWS managed CMK⁴.

* D. Operation system-native encryption that uses GnuPG is not a solution that uses AWS KMS. GnuPG is a command line tool that implements the OpenPGP standard for encrypting and signing data. It does not integrate with Amazon EBS or other AWS services. It also does not provide a way to automatically expire the key material used for encryption⁵.

References:

1: Customer Managed Keys - AWS Key Management Service 2: [Importing Key Material in AWS Key Management Service (AWS KMS) - AWS Key Management Service] 3: [Rotating Customer Master Keys - AWS Key Management Service] 4: [AWS Managed Keys - AWS Key Management Service] 5: The GNU Privacy Guard

NEW QUESTION 57

A Security Engineer is troubleshooting an issue with a company's custom logging application. The application logs are written to an Amazon S3 bucket with event notifications enabled to send events to an Amazon SNS topic. All logs are encrypted at rest using an IAM KMS CMK. The SNS topic is subscribed to an encrypted Amazon SQS queue. The logging application polls the queue for new messages that contain metadata about the S3 object. The application then reads the content of the object from the S3 bucket for indexing.

The Logging team reported that Amazon CloudWatch metrics for the number of messages sent or received is showing zero. No logs are being received.

What should the Security Engineer do to troubleshoot this issue?

A) Add the following statement to the IAM managed CMKs:

```
{
  "Sid": "Allow Amazon SNS to use this key",
  "Effect": "Allow",
  "Principal": {
    "Service": ["sns.amazonaws.com", "sqs.amazonaws.com", "s3.amazonaws.com"]
  },
  "Action": [
    "kms:Decrypt",
    "kms:GenerateDataKey*"
  ],
  "Resource": "*"
}
```

B)

Add the following statement to the CMK key policy:


```
{
  "Sid": "Allow Amazon SNS to use this key",
  "Effect": "Allow",
  "Principal": {
    "Service": "sns.amazonaws.com"
  },
  "Action": [
    "kms:Decrypt",
    "kms:GenerateDataKey*"
  ],
  "Resource": "*"
}
```

C)

Add the following statement to the CMK key policy:

```
{
  "Sid": "Allow Amazon SNS to use this key",
  "Effect": "Allow",
  "Principal": {
    "Service": "sqs.amazonaws.com"
  },
  "Action": [
    "kms:Decrypt",
    "kms:GenerateDataKey*"
  ],
  "Resource": "*"
}
```

D)

Add the following statement to the CMK key policy:

```
{
  "Sid": "Allow Amazon SNS to use this key",
  "Effect": "Allow",
  "Principal": {
    "Service": "s3.amazonaws.com"
  },
  "Action": [
    "kms:Decrypt",
    "kms:GenerateDataKey*"
  ],
  "Resource": "*"
}
```

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

Answer: D**NEW QUESTION 62**

A company is running an application in The eu-west-1 Region. The application uses an IAM Key Management Service (IAM KMS) CMK to encrypt sensitive data. The company plans to deploy the application in the eu-north-1 Region.

A security engineer needs to implement a key management solution for the application deployment in the new Region. The security engineer must minimize changes to the application code.

Which change should the security engineer make to the IAM KMS configuration to meet these requirements?

- A. Update the key policies in eu-west-1. Point the application in eu-north-1 to use the same CMK as the application in eu-west-1.
- B. Allocate a new CMK to eu-north-1 to be used by the application that is deployed in that Region.
- C. Allocate a new CMK to eu-north-1. Create the same alias name for both key
- D. Configure the application deployment to use the key alias.
- E. Allocate a new CMK to eu-north-1. Create an alias for eu-'-1. Change the application code to point to the alias for eu-'-1.

Answer: B**NEW QUESTION 66**

A company deploys a distributed web application on a fleet of Amazon EC2 instances. The fleet is behind an Application Load Balancer (ALB) that will be configured to terminate the TLS connection. All TLS traffic to the ALB must stay secure, even if the certificate private key is compromised.

How can a security engineer meet this requirement?

- A. Create an HTTPS listener that uses a certificate that is managed by IAM Certificate Manager (ACM).
- B. Create an HTTPS listener that uses a security policy that uses a cipher suite with perfect forward secrecy (PFS).
- C. Create an HTTPS listener that uses the Server Order Preference security feature.
- D. Create a TCP listener that uses a custom security policy that allows only cipher suites with perfect forward secrecy (PFS).

Answer: A**NEW QUESTION 69**

A business requires a forensic logging solution for hundreds of Docker-based apps running on Amazon EC2. The solution must analyze logs in real time, provide message replay, and persist logs.

Which Amazon Web Offerings (IAM) services should be employed to satisfy these requirements? (Select two.)

- A. Amazon Athena
- B. Amazon Kinesis
- C. Amazon SQS
- D. Amazon Elasticsearch
- E. Amazon EMR

Answer: BD

NEW QUESTION 74

A company is using IAM Secrets Manager to store secrets for its production Amazon RDS database. The Security Officer has asked that secrets be rotated every 3 months. Which solution would allow the company to securely rotate the secrets? (Select TWO.)

- A. Place the RDS instance in a public subnet and an IAM Lambda function outside the VP
- B. Schedule the Lambda function to run every 3 months to rotate the secrets.
- C. Place the RDS instance in a private subnet and an IAM Lambda function inside the VPC in the private subne
- D. Configure the private subnet to use a NAT gatewa
- E. Schedule the Lambda function to run every 3 months to rotate the secrets.
- F. Place the RDS instance in a private subnet and an IAM Lambda function outside the VP
- G. Configure the private subnet to use an internet gatewa
- H. Schedule the Lambda function to run every 3 months lo rotate the secrets.
- I. Place the RDS instance in a private subnet and an IAM Lambda function inside the VPC in the private subne
- J. Schedule the Lambda function to run quarterly to rotate the secrets.
- K. Place the RDS instance in a private subnet and an IAM Lambda function inside the VPC in the private subne
- L. Configure a Secrets Manager interface endpoint
- M. Schedule the Lambda function to run every 3 months to rotate the secrets.

Answer: BE

Explanation:

these are the solutions that can securely rotate the secrets for the production RDS database using Secrets Manager. Secrets Manager is a service that helps you manage secrets such as database credentials, API keys, and passwords. You can use Secrets Manager to rotate secrets automatically by using a Lambda function that runs on a schedule. The Lambda function needs to have access to both the RDS instance and the Secrets Manager service. Option B places the RDS instance in a private subnet and the Lambda function in the same VPC in another private subnet. The private subnet with the Lambda function needs to use a NAT gateway to access Secrets Manager over the internet. Option E places the RDS instance and the Lambda function in the same private subnet and configures a Secrets Manager interface endpoint, which is a private connection between the VPC and Secrets Manager. The other options are either insecure or incorrect for rotating secrets using Secrets Manager.

NEW QUESTION 77

A company accidentally deleted the private key for an Amazon Elastic Block Store (Amazon EBS)-backed Amazon EC2 instance. A security engineer needs to regain access to the instance.

Which combination of steps will meet this requirement? (Choose two.)

- A. Stop the instanc
- B. Detach the root volum
- C. Generate a new key pair.
- D. Keep the instance runnin
- E. Detach the root volum
- F. Generate a new key pair.
- G. When the volume is detached from the original instance, attach the volume to another instance as a data volum
- H. Modify the authorized_keys file with a new public ke
- I. Move the volume back to the original instanc
- J. Start the instance.
- K. When the volume is detached from the original instance, attach the volume to another instance as a data volum
- L. Modify the authorized_keys file with a new private ke
- M. Move the volume back to the original instanc
- N. Start the instance.
- O. When the volume is detached from the original instance, attach the volume to another instance as a data volum
- P. Modify the authorized_keys file with a new public ke
- Q. Move the volume back to the original instance that is running.

Answer: AC

Explanation:

If you lose the private key for an EBS-backed instance, you can regain access to your instance. You must stop the instance, detach its root volume and attach it to another instance as a data volume, modify the authorized_keys file with a new public key, move the volume back to the original instance, and restart the instance.
<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/TroubleshootingInstancesConnecting.html#replacing>

NEW QUESTION 81

A security engineer needs to see up an Amazon CloudFront distribution for an Amazon S3 bucket that hosts a static website. The security engineer must allow only specified IP addresses to access the website. The security engineer also must prevent users from accessing the website directly by using S3 URLs. Which solution will meet these requirements?

- A. Generate an S3 bucket polic
- B. Specify cloudfront amazonaws com as the principa
- C. Use the aws SourceIp condition key to allow access only if the request comes from the specified IP addresses.
- D. Create a CloudFront origin access identity (OAI). Create the S3 bucket policy so that only the OAI has acces

- E. Create an AWS WAF web ACL and add an IP set rule
- F. Associate the web ACL with the CloudFront distribution.
- G. Implement security groups to allow only the specified IP addresses access and to restrict S3 bucket access by using the CloudFront distribution.
- H. Create an S3 bucket access point to allow access from only the CloudFront distribution
- I. Create an AWS WAF web ACL and add an IP set rule
- J. Associate the web ACL with the CloudFront distribution.

Answer: B

NEW QUESTION 83

A company has hundreds of AWS accounts in an organization in AWS Organizations. The company operates out of a single AWS Region. The company has a dedicated security tooling AWS account in the organization. The security tooling account is configured as the organization's delegated administrator for Amazon GuardDuty and AWS Security Hub. The company has configured the environment to automatically enable GuardDuty and Security Hub for existing AWS accounts and new AWS accounts.

The company is performing control tests on specific GuardDuty findings to make sure that the company's security team can detect and respond to security events. The security team launched an Amazon EC2 instance and attempted to run DNS requests against a test domain, example.com, to generate a DNS finding. However, the GuardDuty finding was never created in the Security Hub delegated administrator account. Why was the finding not created in the Security Hub delegated administrator account?

- A. VPC flow logs were not turned on for the VPC where the EC2 instance was launched.
- B. The VPC where the EC2 instance was launched had the DHCP option configured for a custom OpenDNS resolver.
- C. The GuardDuty integration with Security Hub was never activated in the AWS account where the finding was generated.
- D. Cross-Region aggregation in Security Hub was not configured.

Answer: C

Explanation:

The correct answer is C. The GuardDuty integration with Security Hub was never activated in the AWS account where the finding was generated.

According to the AWS documentation¹, GuardDuty findings are automatically sent to Security Hub only if the GuardDuty integration with Security Hub is enabled in the same account and Region. This means that the security tooling account, which is the delegated administrator for both GuardDuty and Security Hub, must enable the GuardDuty integration with Security Hub in each member account and Region where GuardDuty is enabled. Otherwise, the findings from GuardDuty will not be visible in Security Hub.

The other options are incorrect because:

➤ VPC flow logs are not required for GuardDuty to generate DNS findings. GuardDuty uses VPC DNS logs, which are automatically enabled for all VPCs, to detect malicious or unauthorized DNS activity.

➤ The DHCP option configured for a custom OpenDNS resolver does not affect GuardDuty's ability to generate DNS findings. GuardDuty uses its own threat intelligence sources to identify malicious domains, regardless of the DNS resolver used by the EC2 instance.

➤ Cross-Region aggregation in Security Hub is not relevant for this scenario, because the company operates out of a single AWS Region. Cross-Region aggregation allows Security Hub to aggregate findings from multiple Regions into a single Region.

References:

1: Managing GuardDuty accounts with AWS Organizations : Amazon GuardDuty Findings : How Amazon GuardDuty Works : Cross-Region aggregation in AWS Security Hub

NEW QUESTION 84

A company is using Amazon Route 53 Resolver for its hybrid DNS infrastructure. The company has set up Route 53 Resolver forwarding rules for authoritative domains that are hosted on on-premises DNS servers.

A new security mandate requires the company to implement a solution to log and query DNS traffic that goes to the on-premises DNS servers. The logs must show details of the source IP address of the instance from which the query originated. The logs also must show the DNS name that was requested in Route 53 Resolver. Which solution will meet these requirements?

- A. Use VPC Traffic Mirroring
- B. Configure all relevant elastic network interfaces as the traffic source, include amazon-dns in the mirror filter, and set Amazon CloudWatch Logs as the mirror target
- C. Use CloudWatch Insights on the mirror session logs to run queries on the source IP address and DNS name.
- D. Configure VPC flow logs on all relevant VPC
- E. Send the logs to an Amazon S3 bucket
- F. Use Amazon Athena to run SQL queries on the source IP address and DNS name.
- G. Configure Route 53 Resolver query logging on all relevant VPC
- H. Send the logs to Amazon CloudWatch Log
- I. Use CloudWatch Insights to run queries on the source IP address and DNS name.
- J. Modify the Route 53 Resolver rules on the authoritative domains that forward to the on-premises DNS server
- K. Send the logs to an Amazon S3 bucket
- L. Use Amazon Athena to run SQL queries on the source IP address and DNS name.

Answer: C

Explanation:

The correct answer is C. Configure Route 53 Resolver query logging on all relevant VPCs. Send the logs to Amazon CloudWatch Logs. Use CloudWatch Insights to run queries on the source IP address and DNS name.

According to the AWS documentation¹, Route 53 Resolver query logging lets you log the DNS queries that Route 53 Resolver handles for your VPCs. You can send the logs to CloudWatch Logs, Amazon S3, or Kinesis Data Firehose. The logs include information such as the following:

- The AWS Region where the VPC was created
- The ID of the VPC that the query originated from
- The IP address of the instance that the query originated from
- The instance ID of the resource that the query originated from
- The date and time that the query was first made
- The DNS name requested (such as prod.example.com)
-

- The DNS record type (such as A or AAAA)
- The DNS response code, such as NoError or ServFail
- The DNS response data, such as the IP address that is returned in response to the DNS query

You can use CloudWatch Insights to run queries on your log data and analyze the results using graphs and statistics². You can filter and aggregate the log data based on any field, and use operators and functions to perform calculations and transformations. For example, you can use CloudWatch Insights to find out how many queries were made for a specific domain name, or which instances made the most queries.

Therefore, this solution meets the requirements of logging and querying DNS traffic that goes to the on-premises DNS servers, showing details of the source IP address of the instance from which the query originated, and the DNS name that was requested in Route 53 Resolver.

The other options are incorrect because:

- A. Using VPC Traffic Mirroring would not capture the DNS queries that go to the on-premises DNS servers, because Traffic Mirroring only copies network traffic from an elastic network interface of an EC2 instance to a target for analysis³. Traffic Mirroring does not include traffic that goes through a Route 53 Resolver outbound endpoint, which is used to forward queries to on-premises DNS servers⁴. Therefore, this solution would not meet the requirements.
- B. Configuring VPC flow logs on all relevant VPCs would not capture the DNS name that was requested in Route 53 Resolver, because flow logs only record information about the IP traffic going to and from network interfaces in a VPC⁵. Flow logs do not include any information about the content or payload of a packet, such as a DNS query or response. Therefore, this solution would not meet the requirements.
- D. Modifying the Route 53 Resolver rules on the authoritative domains that forward to the on-premises DNS servers would not enable logging of DNS queries, because Resolver rules only specify how to forward queries for specified domain names to your network⁶. Resolver rules do not have any logging functionality by themselves. Therefore, this solution would not meet the requirements. References:

1: Resolver query logging - Amazon Route 53 2: Analyzing log data with CloudWatch Logs Insights - Amazon CloudWatch 3: What is Traffic Mirroring? - Amazon Virtual Private Cloud 4: Outbound Resolver endpoints - Amazon Route 53 5: Logging IP traffic using VPC Flow Logs - Amazon Virtual Private Cloud 6: Managing forwarding rules - Amazon Route 53

NEW QUESTION 89

There is a requirement for a company to transfer large amounts of data between IAM and an on-premise location. There is an additional requirement for low latency and high consistency traffic to IAM. Given these requirements how would you design a hybrid architecture? Choose the correct answer from the options below

Please select:

- A. Provision a Direct Connect connection to an IAM region using a Direct Connect partner.
- B. Create a VPN tunnel for private connectivity, which increases network consistency and reduces latency.
- C. Create an iPSec tunnel for private connectivity, which increases network consistency and reduces latency.
- D. Create a VPC peering connection between IAM and the Customer gateway.

Answer: A

Explanation:

IAM Direct Connect makes it easy to establish a dedicated network connection from your premises to IAM. Using IAM Direct Connect you can establish private connectivity between IAM and your datacenter, office, or colocation environment which in many cases can reduce your network costs, increase bandwidth throughput and provide a more consistent network experience than Internet-based connections.

Options B and C are invalid because these options will not reduce network latency Options D is invalid because this is only used to connect 2 VPC's

For more information on IAM direct connect, just browse to the below URL: <https://IAM.amazon.com/directconnect>

The correct answer is: Provision a Direct Connect connection to an IAM region using a Direct Connect partner. omit your Feedback/Queries to our Experts

NEW QUESTION 93

A security engineer is designing an IAM policy for a script that will use the AWS CLI. The script currently assumes an IAM role that is attached to three AWS managed IAM policies: AmazonEC2FullAccess, AmazonDynamoDBFullAccess, and AmazonVPCFullAccess.

The security engineer needs to construct a least privilege IAM policy that will replace the AWS managed IAM policies that are attached to this role.

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

- A. In AWS CloudTrail, create a trail for management event
- B. Run the script with the existing AWS managed IAM policies
- C. Use IAM Access Analyzer to generate a new IAM policy that is based on access activity in the trail
- D. Replace the existing AWS managed IAM policies with the generated IAM policy for the role.
- E. Remove the existing AWS managed IAM policies from the role
- F. Attach the IAM Access Analyzer Role Policy Generator to the role
- G. Run the script
- H. Return to IAM Access Analyzer and generate a least privilege IAM policy
- I. Attach the new IAM policy to the role.
- J. Create an account analyzer in IAM Access Analyzer
- K. Create an archive rule that has a filter that checks whether the PrincipalArn value matches the ARN of the role
- L. Run the script
- M. Remove the existing AWS managed IAM policies from the role.
- N. In AWS CloudTrail, create a trail for management event
- O. Remove the existing AWS managed IAM policies from the role
- P. Run the script
- Q. Find the authorization failure in the trail event that is associated with the script
- R. Create a new IAM policy that includes the action and resource that caused the authorization failure
- S. Repeat the process until the script succeeds
- T. Attach the new IAM policy to the role.

Answer: A

NEW QUESTION 96

A company uses Amazon API Gateway to present REST APIs to users. An API developer wants to analyze API access patterns without the need to parse the log files.

Which combination of steps will meet these requirements with the LEAST effort? (Select TWO.)

- A. Configure access logging for the required API stage.
- B. Configure an AWS CloudTrail trail destination for API Gateway event
- C. Configure filters on the userIdentity, userAgent, and sourceIPAddress fields.
- D. Configure an Amazon S3 destination for API Gateway log
- E. Run Amazon Athena queries to analyze API access information.
- F. Use Amazon CloudWatch Logs Insights to analyze API access information.
- G. Select the Enable Detailed CloudWatch Metrics option on the required API stage.

Answer: CD

NEW QUESTION 97

A company has an AWS account that includes an Amazon S3 bucket. The S3 bucket uses server-side encryption with AWS KMS keys (SSE-KMS) to encrypt all the objects at rest by using a customer managed key. The S3 bucket does not have a bucket policy.

An IAM role in the same account has an IAM policy that allows s3 List* and s3 Get* permissions for the S3 bucket. When the IAM role attempts to access an object in the S3 bucket the role receives an access denied message.

Why does the IAM role not have access to the objects that are in the S3 bucket?

- A. The IAM role does not have permission to use the KMS CreateKey operation.
- B. The S3 bucket lacks a policy that allows access to the customer managed key that encrypts the objects.
- C. The IAM role does not have permission to use the customer managed key that encrypts the objects that are in the S3 bucket.
- D. The ACL of the S3 objects does not allow read access for the objects when the objects are encrypted at rest.

Answer: C

Explanation:

When using server-side encryption with AWS KMS keys (SSE-KMS), the requester must have both Amazon S3 permissions and AWS KMS permissions to access the objects. The Amazon S3 permissions are for the bucket and object operations, such as s3:ListBucket and s3:GetObject. The AWS KMS permissions are for the key operations, such as kms:GenerateDataKey and kms:Decrypt. In this case, the IAM role has the necessary Amazon S3 permissions, but not the AWS KMS permissions to use the customer managed key that encrypts the objects. Therefore, the IAM role receives an access denied message when trying to access the objects. Verified References:

- <https://docs.aws.amazon.com/AmazonS3/latest/userguide/troubleshoot-403-errors.html>
- <https://repost.aws/knowledge-center/s3-access-denied-error-kms>
- <https://repost.aws/knowledge-center/cross-account-access-denied-error-s3>

NEW QUESTION 100

A development team is using an IAM Key Management Service (IAM KMS) CMK to try to encrypt and decrypt a secure string parameter from IAM Systems Manager Parameter Store. However, the development team receives an error message on each attempt.

Which issues that are related to the CMK could be reasons for the error? (Select TWO.)

- A. The CMK that is used in the attempt does not exist.
- B. The CMK that is used in the attempt needs to be rotated.
- C. The CMK that is used in the attempt is using the CMK's key ID instead of the CMK ARN.
- D. The CMK that is used in the attempt is not enabled.
- E. The CMK that is used in the attempt is using an alias.

Answer: AD

NEW QUESTION 104

A company has a web server in the AWS Cloud. The company will store the content for the web server in an Amazon S3 bucket. A security engineer must use an Amazon CloudFront distribution to speed up delivery of the content. None of the files can be publicly accessible from the S3 bucket direct.

Which solution will meet these requirements?

- A. Configure the permissions on the individual files in the S3 bucket so that only the CloudFront distribution has access to them.
- B. Create an origin access identity (OAI). Associate the OAI with the CloudFront distributio
- C. Configure the S3 bucket permissions so that only the OAI can access the files in the S3 bucket.
- D. Create an S3 role in AWS Identity and Access Management (IAM). Allow only the CloudFront distribution to assume the role to access the files in the S3 bucket.
- E. Create an S3 bucket policy that uses only the CloudFront distribution ID as the principal and the Amazon Resource Name (ARN) as the target.

Answer: B

NEW QUESTION 105

A company maintains an open-source application that is hosted on a public GitHub repository. While creating a new commit to the repository, an engineer uploaded their IAM access key and secret access key. The engineer reported the mistake to a manager, and the manager immediately disabled the access key. The company needs to assess the impact of the exposed access key. A security engineer must recommend a solution that requires the least possible managerial overhead.

Which solution meets these requirements?

- A. Analyze an IAM Identity and Access Management (IAM) use report from IAM Trusted Advisor to see when the access key was last used.
- B. Analyze Amazon CloudWatch Logs for activity by searching for the access key.
- C. Analyze VPC flow logs for activity by searching for the access key
- D. Analyze a credential report in IAM Identity and Access Management (IAM) to see when the access key was last used.

Answer: A

Explanation:

To assess the impact of the exposed access key, the security engineer should recommend the following solution:

- Analyze an IAM use report from AWS Trusted Advisor to see when the access key was last used. This allows the security engineer to use a tool that provides

information about IAM entities and credentials in their account, and check if there was any unauthorized activity with the exposed access key.

NEW QUESTION 109

A developer at a company uses an SSH key to access multiple Amazon EC2 instances. The company discovers that the SSH key has been posted on a public GitHub repository. A security engineer verifies that the key has not been used recently. How should the security engineer prevent unauthorized access to the EC2 instances?

- A. Delete the key pair from the EC2 console
- B. Create a new key pair.
- C. Use the ModifyInstanceAttribute API operation to change the key on any EC2 instance that is using the key.
- D. Restrict SSH access in the security group to only known corporate IP addresses.
- E. Update the key pair in any AMI that is used to launch the EC2 instance
- F. Restart the EC2 instances.

Answer: C

Explanation:

To prevent unauthorized access to the EC2 instances, the security engineer should do the following:

- Restrict SSH access in the security group to only known corporate IP addresses. This allows the security engineer to use a virtual firewall that controls inbound and outbound traffic for their EC2 instances, and limit SSH access to only trusted sources.

NEW QUESTION 110

A security engineer is working with a company to design an ecommerce application. The application will run on Amazon EC2 instances that run in an Auto Scaling group behind an Application Load Balancer (ALB). The application will use an Amazon RDS DB instance for its database.

The only required connectivity from the internet is for HTTP and HTTPS traffic to the application. The application must communicate with an external payment provider that allows traffic only from a preconfigured allow list of IP addresses. The company must ensure that communications with the external payment provider are not interrupted as the environment scales.

Which combination of actions should the security engineer recommend to meet these requirements? (Select THREE.)

- A. Deploy a NAT gateway in each private subnet for every Availability Zone that is in use.
- B. Place the DB instance in a public subnet.
- C. Place the DB instance in a private subnet.
- D. Configure the Auto Scaling group to place the EC2 instances in a public subnet.
- E. Configure the Auto Scaling group to place the EC2 instances in a private subnet.
- F. Deploy the ALB in a private subnet.

Answer: ACE

NEW QUESTION 115

A company is using IAM Organizations. The company wants to restrict IAM usage to the eu-west-1 Region for all accounts under an OU that is named "development." The solution must persist restrictions to existing and new IAM accounts under the development OU.

- ☐ A. Include the following SCP on the development OU:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "DenyNonDefaultRegions",
      "Effect": "Deny",
      "NotAction": [
        <Desired Global Services> ],
      "Resource": "*",
      "Condition": {
        "StringNotEquals": {
          "aws:RequestedRegion": [
            "eu-west-1"
          ]
        }
      },
      "ArnNotLike": {
        "aws:PrincipalARN": "arn:aws:iam::*:role/AWSExecution"
      }
    }
  ]
}
```


- ☐ B. Include the following SCP on the development account:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "DenyNonDefaultRegions",
      "Effect": "Deny",
      "NotAction": [
        <Desired Global Services> ],
      "Resource": "*",
      "Condition": {
        "StringNotEquals": {
          "aws:RequestedRegion": [
            "eu-west-1"
          ]
        },
        "ArnNotLike": {
          "aws:PrincipalARN": "arn:aws:iam::*:role/AWSExecution"
        }
      }
    }
  ]
}
```

- ☐ C. Include the following SCP on the development OU:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "DenyNonDefaultRegions",
      "Effect": "Deny",
      "NotAction": [
        <Desired Global Services> ],
      "Resource": "*",
      "Condition": {
        "StringEquals": {
          "aws:RequestedRegion": [
            "eu-west-1"
          ]
        },
        "ArnNotLike": {
          "aws:PrincipalARN": "arn:aws:iam::*:role/AWSExecution"
        }
      }
    }
  ]
}
```

○ D. Include the following SCP on the development OU

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "DenyNonDefaultRegions",
      "Effect": "Allow",
      "NotAction": [
        <Desired Global Services> ],
      "Resource": "*",
      "Condition": {
        "StringNotEquals": {
          "aws:RequestedRegion": [
            "us-east-1"
          ]
        },
        "ArnNotLike": {
          "aws:PrincipalARN": "arn:aws:iam::*:role/AWSExecution"
        }
      }
    }
  ]
}
```

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

Answer: A

NEW QUESTION 119

A company uses AWS Organizations. The company has teams that use an AWS CloudHSM hardware security module (HSM) that is hosted in a central AWS account. One of the teams creates its own new dedicated AWS account and wants to use the HSM that is hosted in the central account. How should a security engineer share the HSM that is hosted in the central account with the new dedicated account?

- A. Use AWS Resource Access Manager (AWS RAM) to share the VPC subnet ID of the HSM that is hosted in the central account with the new dedicated account
- B. Configure the CloudHSM security group to accept inbound traffic from the private IP addresses of client instances in the new dedicated account.
- C. Use AWS Identity and Access Management (IAM) to create a cross-account role to access the CloudHSM cluster that is in the central account Create a new IAM user in the new dedicated account Assign the cross-account role to the new IAM user.
- D. Use AWS IAM Identity Center (AWS Single Sign-On) to create an AWS Security Token Service (AWS STS) token to authenticate from the new dedicated account to the central account
- E. Use the cross-account permissions that are assigned to the STS token to invoke an operation on the HSM in the central account.
- F. Use AWS Resource Access Manager (AWS RAM) to share the ID of the HSM that is hosted in the central account with the new dedicated account
- G. Configure the CloudHSM security group to accept inbound traffic from the private IP addresses of client instances in the new dedicated account.

Answer: A

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/cloudhsm-share-clusters/#:~:text=In%20the%20nav>

NEW QUESTION 122

A developer is building a serverless application hosted on IAM that uses Amazon Redshift in a data store. The application has separate modules for read/write and read-only functionality. The modules need their own database users for compliance reasons. Which combination of steps should a security engineer implement to grant appropriate access? (Select TWO)

- A. Configure cluster security groups for each application module to control access to database users that are required for read-only and read/write.
- B. Configure a VPC endpoint for Amazon Redshift Configure an endpoint policy that maps database users to each application module, and allow access to the tables that are required for read-only and read/write
- C. Configure an IAM policy for each module Specify the ARN of an Amazon Redshift database user that allows the GetClusterCredentials API call
- D. Create local database users for each module
- E. Configure an IAM policy for each module Specify the ARN of an IAM user that allows the GetClusterCredentials API call

Answer: CD

Explanation:

To grant appropriate access to the application modules, the security engineer should do the following:

- Configure an IAM policy for each module. Specify the ARN of an Amazon Redshift database user that allows the GetClusterCredentials API call. This allows the application modules to use temporary credentials to access the database with the permissions of the specified user.
- Create local database users for each module. This allows the security engineer to create separate users for read/write and read-only functionality, and to assign them different privileges on the database tables.

NEW QUESTION 123

A business stores website images in an Amazon S3 bucket. The firm serves the photos to end users through Amazon CloudFront. The firm learned lately that the photographs are being accessible from nations in which it does not have a distribution license.

Which steps should the business take to safeguard the photographs and restrict their distribution? (Select two.)

- A. Update the S3 bucket policy to restrict access to a CloudFront origin access identity (OAI).
- B. Update the website DNS record to use an Amazon Route 53 geolocation record deny list of countries where the company lacks a license.
- C. Add a CloudFront geo restriction deny list of countries where the company lacks a license.
- D. Update the S3 bucket policy with a deny list of countries where the company lacks a license.
- E. Enable the Restrict Viewer Access option in CloudFront to create a deny list of countries where the company lacks a license.

Answer: AC

Explanation:

For Enable Geo-Restriction, choose Yes. For Restriction Type, choose Whitelist to allow access to certain countries, or choose Blacklist to block access from certain countries. <https://IAM.amazon.com/premiumsupport/knowledge-center/cloudfront-geo-restriction/>

NEW QUESTION 125

A company has implemented IAM WAF and Amazon CloudFront for an application. The application runs on Amazon EC2 instances that are part of an Auto Scaling group. The Auto Scaling group is behind an Application Load Balancer (ALB).

The IAM WAF web ACL uses an IAM Managed Rules rule group and is associated with the CloudFront distribution. CloudFront receives the request from IAM WAF and then uses the ALB as the distribution's origin.

During a security review, a security engineer discovers that the infrastructure is susceptible to a large, layer 7 DDoS attack.

How can the security engineer improve the security at the edge of the solution to defend against this type of attack?

- A. Configure the CloudFront distribution to use the Lambda@Edge featur
- B. Create an IAM Lambda function that imposes a rate limit on CloudFront viewer request
- C. Block the request if the rate limit is exceeded.
- D. Configure the IAM WAF web ACL so that the web ACL has more capacity units to process all IAM WAF rules faster.
- E. Configure IAM WAF with a rate-based rule that imposes a rate limit that automatically blocks requests when the rate limit is exceeded.
- F. Configure the CloudFront distribution to use IAM WAF as its origin instead of the ALB.

Answer: C

Explanation:

To improve the security at the edge of the solution to defend against a large, layer 7 DDoS attack, the security engineer should do the following:

➤ Configure AWS WAF with a rate-based rule that imposes a rate limit that automatically blocks requests when the rate limit is exceeded. This allows the security engineer to use a rule that tracks the number of requests from a single IP address and blocks subsequent requests if they exceed a specified threshold within a specified time period.

NEW QUESTION 126

A company uses several AWS CloudFormation stacks to handle the deployment of a suite of applications. The leader of the company's application development team notices that the stack deployments fail with permission errors when some team members try to deploy the stacks. However, other team members can deploy the stacks successfully.

The team members access the account by assuming a role that has a specific set of permissions that are necessary for the job responsibilities of the team members. All team members have permissions to perform operations on the stacks.

Which combination of steps will ensure consistent deployment of the stacks MOST securely? (Select THREE.)

- A. Create a service role that has a composite principal that contains each service that needs the necessary permission
- B. Configure the role to allow the sts:AssumeRole action.
- C. Create a service role that has cloudformation.amazonaws.com as the service principa
- D. Configure the role to allow the sts:AssumeRole action.
- E. For each required set of permissions, add a separate policy to the role to allow those permission
- F. Add the ARN of each CloudFormation stack in the resource field of each policy.
- G. For each required set of permissions, add a separate policy to the role to allow those permission
- H. Add the ARN of each service that needs the per-missions in the resource field of the corresponding policy.
- I. Update each stack to use the service role.
- J. Add a policy to each member role to allow the iam:PassRole actio
- K. Set the policy's resource field to the ARN of the service role.

Answer: BDF

NEW QUESTION 130

A company is evaluating the use of AWS Systems Manager Session Manager to gam access to the company's Amazon EC2 instances. However, until the company implements the change, the company must protect the key file for the EC2 instances from read and write operations by any other users.

When a security administrator tries to connect to a critical EC2 Linux instance during an emergency, the security administrator receives the following error. "Error Unprotected private key file - Permissions for 'ssh/my_private_key.pem' are too open".

Which command should the security administrator use to modify the private key Me permissions to resolve this error?

- A. `chmod 0040 ssh/my_private_key.pem`
- B. `chmod 0400 ssh/my_private_key.pem`
- C. `chmod 0004 ssh/my_private_key.pem`
- D. `chmod 0777 ssh/my_private_key.pem`

Answer: B

Explanation:

The error message indicates that the private key file permissions are too open, meaning that other users can read or write to the file. This is a security risk, as the private key should be accessible only by the owner of the file. To fix this error, the security administrator should use the `chmod` command to change the

permissions of the private key file to 0400, which means that only the owner can read the file and no one else can read or write to it.

The chmod command takes a numeric argument that represents the permissions for the owner, group, and others in octal notation. Each digit corresponds to a set of permissions: read (4), write (2), and execute (1). The digits are added together to get the final permissions for each category. For example, 0400 means that the owner has read permission (4) and no other permissions (0), and the group and others have no permissions at all (0).

The other options are incorrect because they either do not change the permissions at all (D), or they give too much or too little permissions to the owner, group, or others (A, C).

Verified References:

- > <https://superuser.com/questions/215504/permissions-on-private-key-in-ssh-folder>
- > <https://www.baeldung.com/linux/ssh-key-permissions>

NEW QUESTION 134

A security engineer logs in to the AWS Lambda console with administrator permissions. The security engineer is trying to view logs in Amazon CloudWatch for a Lambda function that is named my Function.

When the security engineer chooses the option in the Lambda console to view logs in CloudWatch, an "error loading Log Streams" message appears.

The IAM policy for the Lambda function's execution role contains the following:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "logs:CreateLogGroup",
      "Resource": "arn:aws:logs:us-east-1:111111111111:*"
    },
    {
      "Effect": "Allow",
      "Action": ["logs:PutLogEvents"],
      "Resource": ["arn:aws:logs:us-east-1:111111111111:log-
group:/aws/Lambda/myFunction:*"]
    }
  ]
}
```

How should the security engineer correct the error?

- A. Move the logs:CreateLogGroup action to the second Allow statement.
- B. Add the logs:PutDestination action to the second Allow statement.
- C. Add the logs:GetLogEvents action to the second Allow statement.
- D. Add the logs:CreateLogStream action to the second Allow statement.

Answer: D

Explanation:

CloudWatchLogsReadOnlyAccess doesn't include "logs:CreateLogStream" but it includes "logs:Get*"

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/iam-identity-based-access-control-cwl.html#:~:te>

NEW QUESTION 135

A company has multiple accounts in the AWS Cloud. Users in the developer account need to have access to specific resources in the production account. What is the MOST secure way to provide this access?

- A. Create one IAM user in the production account
- B. Grant the appropriate permissions to the resources that are needed
- C. Share the password only with the users that need access.
- D. Create cross-account access with an IAM role in the developer account
- E. Grant the appropriate permissions to this role
- F. Allow users in the developer account to assume this role to access the production resources.
- G. Create cross-account access with an IAM user account in the production account
- H. Grant the appropriate permissions to this user account
- I. Allow users in the developer account to use this user account to access the production resources.
- J. Create cross-account access with an IAM role in the production account
- K. Grant the appropriate permissions to this role
- L. Allow users in the developer account to assume this role to access the production resources.

Answer: D

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html

NEW QUESTION 139

An organization must establish the ability to delete an IAM KMS Customer Master Key (CMK) within a 24-hour timeframe to keep it from being used for encrypt or decrypt operations. Which of the following actions will address this requirement?

- A. Manually rotate a key within KMS to create a new CMK immediately
- B. Use the KMS import key functionality to execute a delete key operation
- C. Use the schedule key deletion function within KMS to specify the minimum wait period for deletion
- D. Change the KMS CMK alias to immediately prevent any services from using the CMK.

Answer: C

Explanation:

the schedule key deletion function within KMS allows you to specify a waiting period before deleting a customer master key (CMK)⁴. The minimum waiting period is 7 days and the maximum is 30 days⁵. This function prevents the CMK from being used for encryption or decryption operations during the waiting period⁴. The

other options are either invalid or ineffective for deleting a CMK within a 24-hour timeframe.

NEW QUESTION 141

A company wants to configure DNS Security Extensions (DNSSEC) for the company's primary domain. The company registers the domain with Amazon Route 53. The company hosts the domain on Amazon EC2 instances by using BIND. What is the MOST operationally efficient solution that meets this requirement?

- A. Set the dnssec-enable option to yes in the BIND configuratio
- B. Create a zone-signing key (ZSK) and a key-signing key (KSK) Restart the BIND service.
- C. Migrate the zone to Route 53 with DNSSEC signing enable
- D. Create a zone-signing key (ZSK) and a key-signing key (KSK) that are based on an AW
- E. Key Management Service (AWS KMS) customer managed key.
- F. Set the dnssec-enable option to yes in the BIND configuratio
- G. Create a zone-signing key (ZSK) and a key-signing key (KSK). Run the dnssec-signzone command to generate a delegation signer (DS) record Use AW
- H. Key Management Service (AWS KMS) to secure the keys.
- I. Migrate the zone to Route 53 with DNSSEC signing enable
- J. Create a key-signing key (KSK) that is based on an AWS Key Management Service (AWS KMS) customer managed ke
- K. Add a delegation signer (DS) record to the parent zone.

Answer: D

Explanation:

To configure DNSSEC for a domain registered with Route 53, the most operationally efficient solution is to migrate the zone to Route 53 with DNSSEC signing enabled, create a key-signing key (KSK) that is based on an AWS Key Management Service (AWS KMS) customer managed key, and add a delegation signer (DS) record to the parent zone. This way, Route 53 handles the zone-signing key (ZSK) and the signing of the records in the hosted zone, and the customer only needs to manage the KSK in AWS KMS and provide the DS record to the domain registrar. Option A is incorrect because it does not involve migrating the zone to Route 53, which would simplify the DNSSEC configuration. Option B is incorrect because it creates both a ZSK and a KSK based on AWS KMS customer managed keys, which is unnecessary and less efficient than letting Route 53 manage the ZSK. Option C is incorrect because it does not involve migrating the zone to Route 53, and it requires running the dnssec-signzone command manually, which is less efficient than letting Route 53 sign the zone automatically. Verified References:

- <https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/domain-configure-dnssec.html>
- <https://aws.amazon.com/about-aws/whats-new/2020/12/announcing-amazon-route-53-support-dnssec/>

NEW QUESTION 145

A company is hosting multiple applications within a single VPC in its IAM account. The applications are running behind an Application Load Balancer that is associated with an IAM WAF web ACL. The company's security team has identified that multiple port scans are originating from a specific range of IP addresses on the internet.

A security engineer needs to deny access from the offending IP addresses. Which solution will meet these requirements?

- A. Modify the IAM WAF web ACL with an IP set match rule statement to deny incoming requests from the IP address range.
- B. Add a rule to all security groups to deny the incoming requests from the IP address range.
- C. Modify the IAM WAF web ACL with a rate-based rule statement to deny the incoming requests from the IP address range.
- D. Configure the IAM WAF web ACL with regex match condition
- E. Specify a pattern set to deny the incoming requests based on the match condition

Answer: A

Explanation:

Note that the IP is known and the question wants us to deny access from that particular address and so we can use IP set match policy of WAF to block access.

NEW QUESTION 147

A company uses a third-party application to store encrypted data in Amazon S3. The company uses another third-party application that decrypts the data from Amazon S3 to ensure separation of duties. Between the applications, a Security Engineer warns to separate the permissions using IAM roles attached to Amazon EC2 instances. The company prefers to use native IAM services.

Which encryption method will meet these requirements?

- A. Use encrypted Amazon EBS volumes with Amazon default keys (IAM EBS)
- B. Use server-side encryption with customer-provided keys (SSE-C)
- C. Use server-side encryption with IAM KMS managed keys (SSE-KMS)
- D. Use server-side encryption with Amazon S3 managed keys (SSE-S3)

Answer: C

NEW QUESTION 149

A security engineer is configuring account-based access control (ABAC) to allow only specific principals to put objects into an Amazon S3 bucket. The principals already have access to Amazon S3.

The security engineer needs to configure a bucket policy that allows principals to put objects into the S3 bucket only if the value of the Team tag on the object matches the value of the Team tag that is associated with the principal. During testing, the security engineer notices that a principal can still put objects into the S3 bucket when the tag values do not match.

Which combination of factors are causing the PutObject operation to succeed when the tag values are different? (Select TWO.)

- A. The principal's identity-based policy grants access to put objects into the S3 bucket with no conditions.
- B. The principal's identity-based policy overrides the condition because the identity-based policy contains an explicit allow.
- C. The S3 bucket's resource policy does not deny access to put objects.
- D. The S3 bucket's resource policy cannot allow actions to the principal.
- E. The bucket policy does not apply to principals in the same zone of trust.

Answer: AC

Explanation:

The correct answer is A and C.

When using ABAC, the principal's identity-based policy and the S3 bucket's resource policy are both evaluated to determine the effective permissions. If either policy grants access to the principal, the action is allowed. If either policy denies access to the principal, the action is denied. Therefore, to enforce the tag-based condition, both policies must deny access when the tag values do not match.

In this case, the principal's identity-based policy grants access to put objects into the S3 bucket with no conditions (A), which means that the policy does not check for the tag values. This policy overrides the condition in the bucket policy because an explicit allow always takes precedence over an implicit deny. The bucket policy can only allow or deny actions to the principal based on the condition, but it cannot override the identity-based policy.

The S3 bucket's resource policy does not deny access to put objects @, which means that it also does not check for the tag values. The bucket policy can only allow or deny actions to the principal based on the condition, but it cannot override the identity-based policy.

Therefore, the combination of factors A and C are causing the PutObject operation to succeed when the tag values are different.

References:

- Using ABAC with Amazon S3
- Bucket policy examples

NEW QUESTION 154

A developer signed in to a new account within an IAM Organization organizational unit (OU) containing multiple accounts. Access to the Amazon S3 service is restricted with the following SCP.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": "*"
    }
  ]
}
```

How can the security engineer provide the developer with Amazon S3 access without affecting other account?

- A. Move the SCP to the root OU of organization to remove the restriction to access Amazon S3.
- B. Add an IAM policy for the developer, which grants S3 access.
- C. Create a new OU without applying the SCP restricting S3 access.
- D. Move the developer account to this new OU.
- E. Add an allow list for the developer account for the S3 service.

Answer: C

NEW QUESTION 155

A security team is using Amazon EC2 Image Builder to build a hardened AMI with forensic capabilities. An AWS Key Management Service (AWS KMS) key will encrypt the forensic AMI. EC2 Image Builder successfully installs the required patches and packages in the security team's AWS account. The security team uses a federated IAM role in the same AWS account to sign in to the AWS Management Console and attempts to launch the forensic AMI. The EC2 instance launches and immediately terminates.

What should the security team do to launch the EC2 instance successfully?

- A. Update the policy that is associated with the federated IAM role to allow the ec2:DescribeImages action for the forensic AMI.
- B. Update the policy that is associated with the federated IAM role to allow the ec2:StartInstances action in the security team's AWS account.
- C. Update the policy that is associated with the KMS key that is used to encrypt the forensic AMI.
- D. Configure the policy to allow the kms:
- E. Encrypt and kms Decrypt actions for the federated IAM role.
- F. Update the policy that is associated with the federated IAM role to allow the kms:
- G. DescribeKey action for the KMS key that is used to encrypt the forensic AMI.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/troubleshooting-launch.html#troubleshooting-launch-i>

NEW QUESTION 158

A company that uses AWS Organizations is migrating workloads to AWS. The company's application team determines that the workloads will use Amazon EC2 instances, Amazon S3 buckets, Amazon DynamoDB tables, and Application Load Balancers. For each resource type, the company mandates that deployments must comply with the following requirements:

- All EC2 instances must be launched from approved AWS accounts.
- All DynamoDB tables must be provisioned with a standardized naming convention.
- All infrastructure that is provisioned in any accounts in the organization must be deployed by AWS CloudFormation templates.

Which combination of steps should the application team take to meet these requirements? (Select TWO.)

- A. Create CloudFormation templates in an administrator AWS account
- B. Share the stack sets with an application AWS account
- C. Restrict the template to be used specifically by the application AWS account.
- D. Create CloudFormation templates in an application AWS account
- E. Share the output with an administrator AWS account to review compliant resource
- F. Restrict output to only the administrator AWS account.
- G. Use permissions boundaries to prevent the application AWS account from provisioning specific resources unless conditions for the internal compliance requirements are met.
- H. Use SCPs to prevent the application AWS account from provisioning specific resources unless conditions for the internal compliance requirements are met.
- I. Activate AWS Config managed rules for each service in the application AWS account.

Answer: AD

NEW QUESTION 160

For compliance reasons a Security Engineer must produce a weekly report that lists any instance that does not have the latest approved patches applied. The Engineer must also ensure that no system goes more than 30 days without the latest approved updates being applied. What would the MOST efficient way to achieve these goals?

- A. Use Amazon Inspector to determine which systems do not have the latest patches applied, and after 30 days, redeploy those instances with the latest AMI version
- B. Configure Amazon EC2 Systems Manager to report on instance patch compliance and enforce updates during the defined maintenance windows
- C. Examine IAM CloudTrail logs to determine whether any instances have not restarted in the last 30 days, and redeploy those instances
- D. Update the AMIs with the latest approved patches and redeploy each instance during the defined maintenance window

Answer: B

Explanation:

Amazon EC2 Systems Manager is a service that helps you automatically collect software inventory, apply OS patches, create system images, and configure Windows and Linux operating systems³. You can use Systems Manager to report on instance patch compliance and enforce updates during the defined maintenance windows⁴. The other options are either inefficient or not feasible for achieving the goals.

NEW QUESTION 162

A company is running internal microservices on Amazon Elastic Container Service (Amazon ECS) with the Amazon EC2 launch type. The company is using Amazon Elastic Container Registry (Amazon ECR) private repositories.

A security engineer needs to encrypt the private repositories by using AWS Key Management Service (AWS KMS). The security engineer also needs to analyze the container images for any common vulnerabilities and exposures (CVEs).

Which solution will meet these requirements?

- A. Enable KMS encryption on the existing ECR repositories
- B. Install Amazon Inspector Agent from the ECS container instances' user data
- C. Run an assessment with the CVE rules.
- D. Recreate the ECR repositories with KMS encryption and ECR scanning enabled
- E. Analyze the scan report after the next push of images.
- F. Recreate the ECR repositories with KMS encryption and ECR scanning enabled
- G. Install AWS Systems Manager Agent on the ECS container instance
- H. Run an inventory report.
- I. Enable KMS encryption on the existing ECR repositories
- J. Use AWS Trusted Advisor to check the ECS container instances and to verify the findings against a list of current CVEs.

Answer: B

NEW QUESTION 167

Your development team is using access keys to develop an application that has access to S3 and DynamoDB. A new security policy has outlined that the credentials should not be older than 2 months, and should be rotated. How can you achieve this?

Please select:

- A. Use the application to rotate the keys in every 2 months via the SDK
- B. Use a script to query the creation date of the key
- C. If older than 2 months, create new access key and update all applications to use it; deactivate the old key and delete it.
- D. Delete the user associated with the keys after every 2 months
- E. Then recreate the user again.
- F. Delete the IAM Role associated with the keys after every 2 months
- G. Then recreate the IAM Role again.

Answer: B

Explanation:

One can use the CLI command `list-access-keys` to get the access keys. This command also returns the "CreateDate" of the keys. If the CreateDate is older than 2 months, then the keys can be deleted.

The `list-access-keys` CLI command returns information about the access key IDs associated with the specified IAM user. If there are none, the action returns an empty list.

Option A is incorrect because you might as use a script for such maintenance activities. Option C is incorrect because you would not rotate the users themselves.

Option D is incorrect because you don't use IAM roles for such a purpose. For more information on the CLI command, please refer to the below link:

<http://docs.IAM.amazon.com/cli/latest/reference/iam/list-access-keys.html>

The correct answer is: Use a script to query the creation date of the keys. If older than 2 months, create new access key and update all applications to use it; deactivate the old key and delete it.

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NEW QUESTION 172

A Security Engineer is working with a Product team building a web application on AWS. The application uses Amazon S3 to host the static content, Amazon API Gateway to provide RESTful services; and Amazon DynamoDB as the backend data store. The users already exist in a directory that is exposed through a SAML identity provider.

Which combination of the following actions should the Engineer take to enable users to be authenticated into the web application and call APIs? (Choose three.)

- A. Create a custom authorization service using AWS Lambda.
- B. Configure a SAML identity provider in Amazon Cognito to map attributes to the Amazon Cognito user pool attributes.
- C. Configure the SAML identity provider to add the Amazon Cognito user pool as a relying party.
- D. Configure an Amazon Cognito identity pool to integrate with social login providers.
- E. Update DynamoDB to store the user email addresses and passwords.
- F. Update API Gateway to use a `COGNITO_USER_POOLS` authorizer.

Answer: BCF

Explanation:

The combination of the following actions should the Engineer take to enable users to be authenticated into the web application and call APIs are:

- B. Configure a SAML identity provider in Amazon Cognito to map attributes to the Amazon Cognito user pool attributes. This is a necessary step to federate the existing users from the SAML identity provider to the Amazon Cognito user pool, which will be used for authentication and authorization¹.
- C. Configure the SAML identity provider to add the Amazon Cognito user pool as a relying party. This is a necessary step to establish a trust relationship between the SAML identity provider and the Amazon Cognito user pool, which will allow the users to sign in using their existing credentials².
- F. Update API Gateway to use a COGNITO_USER_POOLS authorizer. This is a necessary step to enable API Gateway to use the Amazon Cognito user pool as an authorizer for the RESTful services, which will validate the identity or access tokens that are issued by Amazon Cognito when a user signs in successfully³. The other options are incorrect because:
- A. Creating a custom authorization service using AWS Lambda is not a necessary step, because Amazon Cognito user pools can provide built-in authorization features, such as scopes and groups, that can be used to control access to API resources⁴.
- D. Configuring an Amazon Cognito identity pool to integrate with social login providers is not a necessary step, because the users already exist in a directory that is exposed through a SAML identity provider, and there is no requirement to support social login providers⁵.
- E. Updating DynamoDB to store the user email addresses and passwords is not a necessary step, because the user credentials are already stored in the SAML identity provider, and there is no need to duplicate them in DynamoDB⁶.

References:

1: Using Tokens with User Pools 2: Adding SAML Identity Providers to a User Pool 3: Control Access to a REST API Using Amazon Cognito User Pools as Authorizer 4: API Authorization with Resource Servers and OAuth 2.0 Scopes 5: Using Identity Pools (Federated Identities) 6: Amazon DynamoDB

NEW QUESTION 174

A company is evaluating its security posture. In the past, the company has observed issues with specific hosts and host header combinations that affected the company's business. The company has configured AWS WAF web ACLs as an initial step to mitigate these issues.

The company must create a log analysis solution for the AWS WAF web ACLs to monitor problematic activity. The company wants to process all the AWS WAF logs in a central location. The company must have the ability to filter out requests based on specific hosts.

A security engineer starts to enable access logging for the AWS WAF web ACLs.

What should the security engineer do next to meet these requirements with the MOST operational efficiency?

- A. Specify Amazon Redshift as the destination for the access log
- B. Deploy the Amazon Athena Redshift connecto
- C. Use Athena to query the data from Amazon Redshift and to filter the logs by host.
- D. Specify Amazon CloudWatch as the destination for the access log
- E. Use Amazon CloudWatch Logs Insights to design a query to filter the logs by host.
- F. Specify Amazon CloudWatch as the destination for the access log
- G. Export the CloudWatch logs to an Amazon S3 bucke
- H. Use Amazon Athena to query the logs and to filter the logs by host.
- I. Specify Amazon CloudWatch as the destination for the access log
- J. Use Amazon Redshift Spectrum to query the logs and to filter the logs by host.

Answer: C

Explanation:

The correct answer is C. Specify Amazon CloudWatch as the destination for the access logs. Export the CloudWatch logs to an Amazon S3 bucket. Use Amazon Athena to query the logs and to filter the logs by host.

According to the AWS documentation¹, AWS WAF offers logging for the traffic that your web ACLs analyze. The logs include information such as the time that AWS WAF received the request from your protected AWS resource, detailed information about the request, and the action setting for the rule that the request matched. You can send your logs to an Amazon CloudWatch Logs log group, an Amazon Simple Storage Service (Amazon S3) bucket, or an Amazon Kinesis Data Firehose.

To create a log analysis solution for the AWS WAF web ACLs, you can use Amazon Athena, which is an interactive query service that makes it easy to analyze data in Amazon S3 using standard SQL². You can use Athena to query and filter the AWS WAF logs by host or any other criteria. Athena is serverless, so there is no infrastructure to manage, and you pay only for the queries that you run.

To use Athena with AWS WAF logs, you need to export the CloudWatch logs to an S3 bucket. You can do this by creating a subscription filter that sends your log events to a Kinesis Data Firehose delivery stream, which then delivers the data to an S3 bucket³. Alternatively, you can use AWS DMS to migrate your CloudWatch logs to S3⁴.

After you have exported your CloudWatch logs to S3, you can create a table in Athena that points to your S3 bucket and use the AWS service log format that matches your log schema⁵. For example, if you are using JSON format for your AWS WAF logs, you can use the AWSJSONSerDe serde. Then you can run SQL queries on your Athena table and filter the results by host or any other field in your log data.

Therefore, this solution meets the requirements of creating a log analysis solution for the AWS WAF web ACLs with the most operational efficiency. This solution does not require setting up any additional infrastructure or services, and it leverages the existing capabilities of CloudWatch, S3, and Athena.

The other options are incorrect because:

- A. Specifying Amazon Redshift as the destination for the access logs is not possible, because AWS WAF does not support sending logs directly to Redshift. You would need to use an intermediate service such as Kinesis Data Firehose or AWS DMS to load the data from CloudWatch or S3 to Redshift. Deploying the Amazon Athena Redshift connector is not necessary, because you can query Redshift data directly from Athena without using a connector⁶. This solution would also incur additional costs and operational overhead of managing a Redshift cluster.
- B. Specifying Amazon CloudWatch as the destination for the access logs is possible, but using Amazon CloudWatch Logs Insights to design a query to filter the logs by host is not efficient or scalable. CloudWatch Logs Insights is a feature that enables you to interactively search and analyze your log data in CloudWatch Logs⁷. However, CloudWatch Logs Insights has some limitations, such as a maximum query duration of 20 minutes, a maximum of 20 log groups per query, and a maximum retention period of 24 months⁸. These limitations may affect your ability to perform complex and long-running analysis on your AWS WAF logs.
- D. Specifying Amazon CloudWatch as the destination for the access logs is possible, but using Amazon Redshift Spectrum to query the logs and filter them by host is not efficient or cost-effective. Redshift Spectrum is a feature of Amazon Redshift that enables you to run queries against exabytes of data in S3 without loading or transforming any data⁹. However, Redshift Spectrum requires a Redshift cluster to process the queries, which adds additional costs and operational overhead. Redshift Spectrum also charges you based on the number of bytes scanned by each query, which can be expensive if you have large volumes of log data¹⁰.

References:

1: Logging AWS WAF web ACL traffic - Amazon Web Services 2: What Is Amazon Athena? - Amazon Athena 3: Streaming CloudWatch Logs Data to Amazon S3 - Amazon CloudWatch Logs 4: Migrate data from CloudWatch Logs using AWS Database Migration Service - AWS Database Migration Service 5: Querying AWS service logs - Amazon Athena 6: Querying data from Amazon Redshift - Amazon Athena 7: Analyzing log data with CloudWatch Logs Insights - Amazon CloudWatch Logs 8: CloudWatch Logs Insights quotas - Amazon CloudWatch 9: Querying external data using Amazon Redshift Spectrum - Amazon Redshift 10:

Amazon Redshift Spectrum pricing - Amazon Redshift

NEW QUESTION 179

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