

# Amazon-Web-Services

## Exam Questions SCS-C01

AWS Certified Security- Specialty



**NEW QUESTION 1**

A company uses Amazon Elastic Container Service (Amazon ECS) containers that have the Fargate launch type. The containers run web and mobile applications that are written in Java and Node.js. To meet network segmentation requirements, each of the company's business units deploys applications in its own dedicated AWS account.

Each business unit stores container images in an Amazon Elastic Container Registry (Amazon ECR) private registry in its own account.

A security engineer must recommend a solution to scan ECS containers and ECR registries for vulnerabilities in operating systems and programming language libraries.

The company's audit team must be able to identify potential vulnerabilities that exist in any of the accounts where applications are deployed.

Which solution will meet these requirements?

- A. In each account, update the ECR registry to use Amazon Inspector instead of the default scanning service
- B. Configure Amazon Inspector to forward vulnerability findings to AWS Security Hub in a central security account
- C. Provide access for the audit team to use Security Hub to review the findings.
- D. In each account, configure AWS Config to monitor the configuration of the ECS containers and the ECR registry
- E. Configure AWS Config conformance packs for vulnerability scanning
- F. Create an AWS Config aggregator in a central account to collect configuration and compliance details from all accounts
- G. Provide the audit team with access to AWS Config in the account where the aggregator is configured.
- H. In each account, configure AWS Audit Manager to scan the ECS containers and the ECR registry. Configure Audit Manager to forward vulnerability findings to AWS Security Hub in a central security account
- I. Provide access for the audit team to use Security Hub to review the findings.
- J. In each account, configure Amazon GuardDuty to scan the ECS containers and the ECR registry. Configure GuardDuty to forward vulnerability findings to AWS Security Hub in a central security account
- K. Provide access for the audit team to use Security Hub to review the findings.

**Answer: B**

**Explanation:**

➤ Option B: This option meets the requirements of scanning ECS containers and ECR registries for vulnerabilities, and providing a centralized view of the findings for the audit team. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. AWS Config conformance packs are a collection of AWS Config rules and remediation actions that can be easily deployed as a single entity in an account and a Region or across an organization in AWS Organizations. Conformance packs can help you manage configuration compliance of your AWS resources at scale by using a common framework and packaging model. You can use prebuilt conformance packs for vulnerability scanning, such as CIS Operating System Security Configuration Benchmarks or Amazon Inspector Rules for Linux Instances<sup>1</sup>. You can also create custom conformance packs to scan for vulnerabilities in programming language libraries. AWS Config aggregator is a feature that enables you to aggregate configuration and compliance data from multiple accounts and Regions into a single account and Region<sup>2</sup>. You can provide access for the audit team to use AWS Config in the account where the aggregator is configured, and view the aggregated data in the AWS Config console or API.

**NEW QUESTION 2**

A company deploys a set of standard IAM roles in AWS accounts. The IAM roles are based on job functions within the company. To balance operational efficiency and security, a security engineer implemented AWS Organizations SCPs to restrict access to critical security services in all company accounts.

All of the company's accounts and OUs within AWS Organizations have a default FullAWSAccess SCP that is attached. The security engineer needs to ensure that no one can disable Amazon GuardDuty and AWS Security Hub. The security engineer also must not override other permissions that are granted by IAM policies that are defined in the accounts.

Which SCP should the security engineer attach to the root of the organization to meet these requirements?

A. 

```
"Version": "2012-10-17",
"Statement": [
  {
    "Effect": "Deny",
    "Action": [
      "guardduty:DeleteDetector",
      "guardduty:UpdateDetector",
      "securityhub:DisableSecurityHub"
    ],
    "Resource": [
      "*"
    ]
  }
]
```

B. A screenshot of a computer code Description automatically generated

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

C. A screenshot of a computer code Description automatically generated

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*"
    },
    {
      "Effect": "Deny",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

D. A screenshot of a computer code Description automatically generated

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

**Answer: A**

### NEW QUESTION 3

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 4**

A company deploys a set of standard IAM roles in AWS accounts. The IAM roles are based on job functions within the company. To balance operational efficiency and security, a security engineer implemented AWS Organizations SCPs to restrict access to critical security services in all company accounts.

All of the company's accounts and OUs within AWS Organizations have a default FullAWSAccess SCP that is attached. The security engineer needs to ensure that no one can disable Amazon GuardDuty and AWS Security Hub. The security engineer also must not override other permissions that are granted by IAM policies that are defined in the accounts.

Which SCP should the security engineer attach to the root of the organization to meet these requirements? A)

```
"Version": "2012-10-17",
"Statement": [
  {
    "Effect": "Deny",
    "Action": [
      "guardduty:DeleteDetector",
      "guardduty:UpdateDetector",
      "securityhub:DisableSecurityHub"
    ],
    "Resource": [
      "*"
    ]
  }
]
```

B)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

C)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*"
    },
    {
      "Effect": "Deny",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

D)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "NotAction": [
        "guardduty:DeleteDetector",
        "guardduty:UpdateDetector",
        "securityhub:DisableSecurityHub"
      ],
      "Resource": [
        "*"
      ]
    }
  ]
}
```

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

Answer: A

#### NEW QUESTION 5

A Security Engineer is asked to update an AWS CloudTrail log file prefix for an existing trail. When attempting to save the change in the CloudTrail console, the Security Engineer receives the following error message: `There is a problem with the bucket policy.` What will enable the Security Engineer to save the change?

- A. Create a new trail with the updated log file prefix, and then delete the original trail
- B. Update the existing bucket policy in the Amazon S3 console with the new log file prefix, and then update the log file prefix in the CloudTrail console.



- C. Update the existing bucket policy in the Amazon S3 console to allow the Security Engineer's Principal to perform PutBucketPolicy, and then update the log file prefix in the CloudTrail console.
- D. Update the existing bucket policy in the Amazon S3 console with the new log file prefix, and then update the log file prefix in the CloudTrail console.
- E. Update the existing bucket policy in the Amazon S3 console to allow the Security Engineer's Principal to perform GetBucketPolicy, and then update the log file prefix in the CloudTrail console.

**Answer:** C

**Explanation:**

The correct answer is C. Update the existing bucket policy in the Amazon S3 console with the new log file prefix, and then update the log file prefix in the CloudTrail console.

According to the AWS documentation<sup>1</sup>, a bucket policy is a resource-based policy that you can use to grant access permissions to your Amazon S3 bucket and the objects in it. Only the bucket owner can associate a policy with a bucket. The permissions attached to the bucket apply to all of the objects in the bucket that are owned by the bucket owner.

When you create a trail in CloudTrail, you can specify an existing S3 bucket or create a new one to store your log files. CloudTrail automatically creates a bucket policy for your S3 bucket that grants CloudTrail write-only access to deliver log files to your bucket. The bucket policy also grants read-only access to AWS services that you can use to view and analyze your log data, such as Amazon Athena, Amazon CloudWatch Logs, and Amazon QuickSight.

If you want to update the log file prefix for an existing trail, you must also update the existing bucket policy in the S3 console with the new log file prefix. The log file prefix is part of the resource ARN that identifies the objects in your bucket that CloudTrail can access. If you don't update the bucket policy with the new log file prefix, CloudTrail will not be able to deliver log files to your bucket, and you will receive an error message when you try to save the change in the CloudTrail console.

The other options are incorrect because:

- A. Creating a new trail with the updated log file prefix, and then deleting the original trail is not necessary and may cause data loss or inconsistency. You can simply update the existing trail and its associated bucket policy with the new log file prefix.
- B. Updating the existing bucket policy in the S3 console to allow the Security Engineer's Principal to perform PutBucketPolicy is not relevant to this issue. The PutBucketPolicy action allows you to create or replace a policy on a bucket, but it does not affect CloudTrail's ability to deliver log files to your bucket. You still need to update the existing bucket policy with the new log file prefix.
- D. Updating the existing bucket policy in the S3 console to allow the Security Engineer's Principal to perform GetBucketPolicy is not relevant to this issue. The GetBucketPolicy action allows you to retrieve a policy on a bucket, but it does not affect CloudTrail's ability to deliver log files to your bucket. You still need to update the existing bucket policy with the new log file prefix.

References:

1: Using bucket policies - Amazon Simple Storage Service

**NEW QUESTION 6**

A company wants to migrate its static primary domain website to AWS. The company hosts the website and DNS servers internally. The company wants the website to enforce SSL/TLS encryption block IP addresses from outside the United States (US), and take advantage of managed services whenever possible. Which solution will meet these requirements?

- A. Migrate the website to Amazon S3 Import a public SSL certificate to an Application Load Balancer
- B. Balancer with rules to block traffic from outside the US Migrate DNS to Amazon Route 53.
- C. Migrate the website to Amazon EC2 Import a public SSL certificate that is created by AWS Certificate Manager (ACM) to an Application Load Balancer with rules to block traffic from outside the US Update DNS accordingly.
- D. Migrate the website to Amazon S3. Import a public SSL certificate to Amazon CloudFront Use AWS WAF rules to block traffic from outside the US Update DNS accordingly
- E. Migrate the website to Amazon S3 Import a public SSL certificate that is created by AWS Certificate Manager (ACM) to Amazon CloudFront
- F. CloudFront Configure CloudFront to block traffic from outside the US
- G. Migrate DNS to Amazon Route 53.

**Answer:** D

**Explanation:**

To migrate the static website to AWS and meet the requirements, the following steps are required:

- Migrate the website to Amazon S3, which is a highly scalable and durable object storage service that can host static websites. To do this, create an S3 bucket with the same name as the domain name of the website, enable static website hosting for the bucket, upload the website files to the bucket, and configure the bucket policy to allow public read access to the objects. For more information, see [Hosting a static website on Amazon S3](#).
- Import a public SSL certificate that is created by AWS Certificate Manager (ACM) to Amazon CloudFront, which is a global content delivery network (CDN) service that can improve the performance and security of web applications. To do this, request or import a public SSL certificate for the domain name of the website using ACM, create a CloudFront distribution with the S3 bucket as the origin, and associate the SSL certificate with the distribution. For more information, see [Using alternate domain names and HTTPS](#).
- Configure CloudFront to block traffic from outside the US, which is one of the requirements. To do this, create a CloudFront web ACL using AWS WAF, which is a web application firewall service that lets you control access to your web applications. In the web ACL, create a rule that uses a geo match condition to block requests that originate from countries other than the US. Associate the web ACL with the CloudFront distribution. For more information, see [How AWS WAF works with Amazon CloudFront features](#).
- Migrate DNS to Amazon Route 53, which is a highly available and scalable cloud DNS service that can route traffic to various AWS services. To do this, register or transfer your domain name to Route 53, create a hosted zone for your domain name, and create an alias record that points your domain name to your CloudFront distribution. For more information, see [Routing traffic to an Amazon CloudFront web distribution by using your domain name](#).

The other options are incorrect because they either do not implement SSL/TLS encryption for the website (A), do not use managed services whenever possible (B), or do not block IP addresses from outside the US (C). Verified References:

- <https://docs.aws.amazon.com/AmazonS3/latest/userguide/HostingWebsiteOnS3Setup.html>
- <https://docs.aws.amazon.com/waf/latest/developerguide/waf-cloudfront.html>
- <https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-to-cloudfront-distribution.html>

**NEW QUESTION 7**

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 o
- 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 Manage
- 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 8**

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 9**

An Incident Response team is investigating an IAM access key leak that resulted in Amazon EC2 instances being launched. The company did not discover the incident until many months later. The Director of Information Security wants to implement new controls that will alert when similar incidents happen in the future. Which controls should the company implement to achieve this? (Select TWO.)

- A. Enable VPC Flow Logs in all VPCs. Create a scheduled IAM Lambda function that downloads and parses the logs, and sends an Amazon SNS notification for violations.
- B. Use IAM CloudTrail to make a trail, and apply it to all Regions. Specify an Amazon S3 bucket to receive all the CloudTrail log files.
- C. Add the following bucket policy to the company's IAM CloudTrail bucket to prevent log tampering: 

```
{"Version": "2012-10-17-", "Statement": { "Effect": "Deny", "Action": "s3:PutObject", "Principal": "-", "Resource": "arn:iam:s3:::cloudtrail/IAMLogs/111122223333/*"}}
```

 Create an Amazon S3 data event for an PutObject attempts, which sends notifications to an Amazon SNS topic.
- D. Create a Security Auditor role with permissions to access Amazon CloudWatch Logs in all Regions. Ship the logs to an Amazon S3 bucket and make a lifecycle policy to ship the logs to Amazon S3 Glacier.
- E. Verify that Amazon GuardDuty is enabled in all Regions, and create an Amazon CloudWatch Events rule for Amazon GuardDuty findings. Add an Amazon SNS topic as the rule's target.

**Answer:** AE

#### NEW QUESTION 10

A company hosts business-critical applications on Amazon EC2 instances in a VPC. The VPC uses default DHCP options sets. A security engineer needs to log all DNS queries that internal resources make in the VPC. The security engineer also must create a list of the most common DNS queries over time. Which solution will meet these requirements?

- A. Install the Amazon CloudWatch agent on each EC2 instance in the VPC.
- B. Use the CloudWatch agent to stream the DNS query logs to an Amazon CloudWatch Logs log group.
- C. Use CloudWatch metric filters to automatically generate metrics that list the most common DNS queries.
- D. Install a BIND DNS server in the VPC.
- E. Create a bash script to list the DNS request number of common DNS queries from the BIND logs.
- F. Create VPC flow logs for all subnets in the VPC.
- G. Stream the flow logs to an Amazon CloudWatch Logs log group.
- H. Use CloudWatch Logs Insights to list the most common DNS queries for the log group in a custom dashboard.
- I. Configure Amazon Route 53 Resolver query logging.
- J. Add an Amazon CloudWatch Logs log group as the destination.
- K. Use Amazon CloudWatch Contributor Insights to analyze the data and create time series that display the most common DNS queries.

**Answer:** D

#### Explanation:

<https://aws.amazon.com/blogs/aws/log-your-vpc-dns-queries-with-route-53-resolver-query-logs/>

#### NEW QUESTION 10

A company has a legacy application that runs on a single Amazon EC2 instance. A security audit shows that the application has been using an IAM access key within its code to access an Amazon S3 bucket that is named DOC-EXAMPLE-BUCKET1 in the same AWS account. This access key pair has the s3:GetObject permission to all objects in only this S3 bucket. The company takes the application offline because the application is not compliant with the company's security policies for accessing other AWS resources from Amazon EC2.

A security engineer validates that AWS CloudTrail is turned on in all AWS Regions. CloudTrail is sending logs to an S3 bucket that is named DOC-EXAMPLE-BUCKET2. This S3 bucket is in the same AWS account as DOC-EXAMPLE-BUCKET1. However, CloudTrail has not been configured to send logs to Amazon CloudWatch Logs.

The company wants to know if any objects in DOC-EXAMPLE-BUCKET1 were accessed with the IAM access key in the past 60 days. If any objects were accessed, the company wants to know if any of the objects that are text files (.txt extension) contained personally identifiable information (PII).

Which combination of steps should the security engineer take to gather this information? (Choose two.)

- A. Configure Amazon Macie to identify any objects in DOC-EXAMPLE-BUCKET1 that contain PII and that were available to the access key.
- B. Use Amazon CloudWatch Logs Insights to identify any objects in DOC-EXAMPLE-BUCKET1 that contain PII and that were available to the access key.
- C. Use Amazon OpenSearch Service (Amazon Elasticsearch Service) to query the CloudTrail logs in DOC-EXAMPLE-BUCKET2 for API calls that used the access key to access an object that contained PII.
- D. Use Amazon Athena to query the CloudTrail logs in DOC-EXAMPLE-BUCKET2 for any API calls that used the access key to access an object that contained PII.
- E. Use AWS Identity and Access Management Access Analyzer to identify any API calls that used the access key to access objects that contained PII in DOC-EXAMPLE-BUCKET1.

**Answer:** AD

#### NEW QUESTION 15

A Security Engineer receives alerts that an Amazon EC2 instance on a public subnet is under an SFTP brute force attack from a specific IP address, which is a known malicious bot. What should the Security Engineer do to block the malicious bot?

- A. Add a deny rule to the public VPC security group to block the malicious IP.
- B. Add the malicious IP to IAM WAF blocked IPs.
- C. Configure Linux iptables or Windows Firewall to block any traffic from the malicious IP.
- D. Modify the hosted zone in Amazon Route 53 and create a DNS sinkhole for the malicious IP.

**Answer:** D

#### Explanation:

What the Security Engineer should do to block the malicious bot. SFTP is a protocol that allows secure file transfer over SSH. EC2 is a service that provides virtual servers in the cloud. A public subnet is a subnet that has a route to an internet gateway, which allows it to communicate with the internet. A brute force attack is a type of attack that tries to guess passwords or keys by trying many possible combinations. A malicious bot is a software program that performs automated tasks for malicious purposes. Route 53 is a service that provides DNS resolution and domain name registration. A DNS sinkhole is a technique that redirects malicious or unwanted traffic to a different destination, such as a black hole server or a honeypot. By modifying the hosted zone in Route 53 and creating a DNS sinkhole for the malicious IP, the Security Engineer can block the malicious bot from reaching the EC2 instance on the public subnet. The other options are either ineffective or



inappropriate for blocking the malicious bot.

#### NEW QUESTION 18

A security engineer must troubleshoot an administrator's inability to make an existing Amazon S3 bucket public in an account that is part of an organization n IAM Organizations. The administrator switched the role from the master account to a member account and then attempted to make one S3 bucket public. This action was immediately denied

Which actions should the security engineer take to troubleshoot the permissions issue? (Select TWO.)

- A. Review the cross-account role permissions and the S3 bucket policy Verify that the Amazon S3 block public access option in the member account is deactivated.
- B. Review the role permissions m the master account and ensure it has sufficient privileges to perform S3 operations
- C. Filter IAM CloudTrail logs for the master account to find the original deny event and update the cross-account role m the member account accordingly Verify that the Amazon S3 block public access option in the master account is deactivated.
- D. Evaluate the SCPs covering the member account and the permissions boundary of the role in the member account for missing permissions and explicit denies.
- E. Ensure the S3 bucket policy explicitly allows the s3 PutBucketPublicAccess action for the role m the member account

**Answer:** DE

#### Explanation:

- A is incorrect because reviewing the cross-account role permissions and the S3 bucket policy is not enough to troubleshoot the permissions issue. You also need to verify that the Amazon S3 block public access option in the member account is deactivated, as well as the permissions boundary and the SCPs of the role in the member account.
- D is correct because evaluating the SCPs and the permissions boundary of the role in the member account can help you identify any missing permissions or explicit denies that could prevent the administrator from making the S3 bucket public.
- E is correct because ensuring that the S3 bucket policy explicitly allows the s3 PutBucketPublicAccess action for the role in the member account can help you override any block public access settings that could prevent the administrator from making the S3 bucket public.

#### NEW QUESTION 22

A company used a lift-and-shift approach to migrate from its on-premises data centers to the AWS Cloud. The company migrated on-premises VMS to Amazon EC2 in-instances. Now the company wants to replace some of components that are running on the EC2 instances with managed AWS services that provide similar functionality.

Initially, the company will transition from load balancer software that runs on EC2 instances to AWS Elastic Load Balancers. A security engineer must ensure that after this transition, all the load balancer logs are centralized and searchable for auditing. The security engineer must also ensure that metrics are generated to show which ciphers are in use.

Which solution will meet these requirements?

- A. Create an Amazon CloudWatch Logs log grou
- B. Configure the load balancers to send logs to the log grou
- C. Use the CloudWatch Logs console to search the log
- D. Create CloudWatch Logs filters on the logs for the required met-rics.
- E. Create an Amazon S3 bucke
- F. Configure the load balancers to send logs to the S3 bucke
- G. Use Amazon Athena to search the logs that are in the S3 bucke
- H. Create Amazon CloudWatch filters on the S3 log files for the re-quired metrics.
- I. Create an Amazon S3 bucke
- J. Configure the load balancers to send logs to the S3 bucke
- K. Use Amazon Athena to search the logs that are in the S3 bucke
- L. Create Athena queries for the required metric
- M. Publish the metrics to Amazon CloudWatch.
- N. Create an Amazon CloudWatch Logs log grou
- O. Configure the load balancers to send logs to the log grou
- P. Use the AWS Management Console to search the log
- Q. Create Amazon Athena queries for the required metric
- R. Publish the metrics to Amazon CloudWatch.

**Answer:** C

#### Explanation:

- Amazon S3 is a service that provides scalable, durable, and secure object storage. You can use Amazon S3 to store and retrieve any amount of data from anywhere on the web1
- AWS Elastic Load Balancing is a service that distributes incoming application or network traffic across multiple targets, such as EC2 instances, containers, or IP addresses. You can use Elastic Load Balancing to increase the availability and fault tolerance of your applications2
- Elastic Load Balancing supports access logging, which captures detailed information about requests sent to your load balancer. Each log contains information such as the time the request was received, the client's IP address, latencies, request paths, and server responses. You can use access logs to analyze traffic patterns and troubleshoot issues3
- You can configure your load balancer to store access logs in an Amazon S3 bucket that you specify. You can also specify the interval for publishing the logs, which can be 5 or 60 minutes. The logs are stored in a hierarchical folder structure by load balancer name, IP address, year, month, day, and time.
- Amazon Athena is a service that allows you to analyze data in Amazon S3 using standard SQL. You can use Athena to run ad-hoc queries and get results in seconds. Athena is serverless, so there is no infrastructure to manage and you pay only for the queries that you run.
- You can use Athena to search the access logs that are stored in your S3 bucket. You can create a table in Athena that maps to your S3 bucket and then run SQL queries on the table. You can also use the Athena console or API to view and download the query results.
- You can also use Athena to create queries for the required metrics, such as the number of requests per cipher or protocol. You can then publish the metrics to Amazon CloudWatch, which is a service that monitors and manages your AWS resources and applications. You can use CloudWatch to collect and track metrics, create alarms, and automate actions based on the state of your resources.
- By using this solution, you can meet the requirements of ensuring that all the load balancer logs are centralized and searchable for auditing and that metrics are generated to show which ciphers are in use.

## 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 key.

E. and use the team name in the tag value.

F. Create an IAM policy similar to the one that follows, and attach 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": {
        "StringEquals": {
          "ec2:ResourceTag/Team": "${aws:PrincipalTag/Team}"
        }
      }
    }
  ]
}
```

G. Tag each IAM role with the Team key, and use the team name in the tag value.

H. Create an IAM policy similar to the one that follows, and attach 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": "2 (aws:PrincipalTag/Team)"
        }
      }
    }
  ]
}
```

**Answer:** A

#### NEW QUESTION 31

A security engineer needs to build a solution to turn IAM CloudTrail back on in multiple IAM Regions in case it is ever turned off. What is the MOST efficient way to implement this solution?

- A. Use IAM Config with a managed rule to trigger the IAM-EnableCloudTrail remediation.
- B. Create an Amazon EventBridge (Amazon CloudWatch Events) event with a cloudtrail.amazonaws.com event source and a StartLogging event name to trigger an IAM Lambda function to call the StartLogging API.
- C. Create an Amazon CloudWatch alarm with a cloudtrail.amazonaws.com event source and a StopLogging event name to trigger an IAM Lambda function to call the StartLogging API.
- D. Monitor IAM Trusted Advisor to ensure CloudTrail logging is enabled.

**Answer:** B

#### NEW QUESTION 32

A company recently had a security audit in which the auditors identified multiple potential threats. These potential threats can cause usage pattern changes such as DNS access peak, abnormal instance traffic, abnormal network interface traffic, and unusual Amazon S3 API calls. The threats can come from different sources and can occur at any time. The company needs to implement a solution to continuously monitor its system and identify all these incoming threats in near-real time. Which solution will meet these requirements?

- A. Enable AWS CloudTrail logs, VPC flow logs, and DNS log
- B. Use Amazon CloudWatch Logs to manage these logs from a centralized account.
- C. Enable AWS CloudTrail logs, VPC flow logs, and DNS log
- D. Use Amazon Macie to monitor these logs from a centralized account.
- E. Enable Amazon GuardDuty from a centralized account
- F. Use GuardDuty to manage AWS CloudTrail logs, VPC flow logs, and DNS logs.
- G. Enable Amazon Inspector from a centralized account
- H. Use Amazon Inspector to manage AWS CloudTrail logs, VPC flow logs, and DNS logs.

**Answer:** C

#### Explanation:

Q: Which data sources does GuardDuty analyze? GuardDuty analyzes CloudTrail management event logs, CloudTrail S3 data event logs, VPC Flow Logs, DNS query logs, and Amazon EKS audit logs. GuardDuty can also scan EBS volume data for possible malware when GuardDuty Malware Protection is enabled and identifies suspicious behavior indicative of malicious software in EC2 instance or container workloads. The service is optimized to consume large data volumes for near real-time processing of security detections. GuardDuty gives you access to built-in detection techniques developed and optimized for the cloud, which are maintained and continuously improved upon by GuardDuty engineering.

#### NEW QUESTION 37

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 42

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 45**

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 46

A security engineer receives a notice from the AWS Abuse team about suspicious activity from a Linux-based Amazon EC2 instance that uses Amazon Elastic Block Store (Amazon EBS)-based storage. The instance is making connections to known malicious addresses. The instance is in a development account within a VPC that is in the us-east-1 Region. The VPC contains an internet gateway and has a subnet in us-east-1a and us-east-1b. Each subnet is associated with a route table that uses the internet gateway as a default route. Each subnet also uses the default network ACL. The suspicious EC2 instance runs within the us-east-1b subnet. During an initial investigation, a security engineer discovers that the suspicious instance is the only instance that runs in the subnet. Which response will immediately mitigate the attack and help investigate the root cause?

- A. Log in to the suspicious instance and use the netstat command to identify remote connections. Use the IP addresses from these remote connections to create deny rules in the security group of the instance. Install diagnostic tools on the instance for investigation. Update the outbound network ACL for the subnet in us-east-1b to explicitly deny all connections as the first rule during the investigation of the instance.
- B. Update the outbound network ACL for the subnet in us-east-1b to explicitly deny all connections as the first rule. Replace the security group with a new security group that allows connections only from a diagnostics security group. Update the outbound network ACL for the us-east-1b subnet to remove the deny all rule. Launch a new EC2 instance that has diagnostic tools. Assign the new security group to the new EC2 instance. Use the new EC2 instance to investigate the suspicious instance.
- C. Ensure that the Amazon Elastic Block Store (Amazon EBS) volumes that are attached to the suspicious EC2 instance will not delete upon termination. Terminate the instance. Launch a new EC2 instance in us-east-1a that has diagnostic tools. Mount the EBS volumes from the terminated instance for investigation.
- D. Create an AWS WAF web ACL that denies traffic to and from the suspicious instance. Attach the AWS WAF web ACL to the instance to mitigate the attack. Log in to the instance and install diagnostic tools to investigate the instance.

**Answer: B**

#### Explanation:

This option suggests updating the outbound network ACL for the subnet in us-east-1b to explicitly deny all connections as the first rule, replacing the security group with a new one that only allows connections from a diagnostics security group, and launching a new EC2 instance with diagnostic tools to investigate the suspicious instance. This option will immediately mitigate the attack and provide the necessary tools for investigation.

#### NEW QUESTION 50

A company is undergoing a layer 3 and layer 4 DDoS attack on its web servers running on IAM. Which combination of IAM services and features will provide protection in this scenario? (Select THREE).

- A. Amazon Route 53
- B. IAM Certificate Manager (ACM)
- C. Amazon S3
- D. IAM Shield
- E. Elastic Load Balancer
- F. Amazon GuardDuty

**Answer: DEF**

#### NEW QUESTION 53

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 (AWS) 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 57

A company is using AWS Organizations to manage multiple accounts. The company needs to allow an IAM user to use a role to access resources that are in

another organization's AWS account.

Which combination of steps must the company perform to meet this requirement? (Select TWO.)

- A. Create an identity policy that allows the sts: AssumeRole action in the AWS account that contains the resource
- B. Attach the identity policy to the IAM user.
- C. Ensure that the sts: AssumeRole action is allowed by the SCPs of the organization that owns the resources that the IAM user needs to access.
- D. Create a role in the AWS account that contains the resource
- E. Create an entry in the role's trust policy that allows the IAM user to assume the rol
- F. Attach the trust policy to the role.
- G. Establish a trust relationship between the IAM user and the AWS account that contains the resources.
- H. Create a role in the IAM user's AWS accoun
- I. Create an identity policy that allows the sts: AssumeRole actio
- J. Attach the identity policy to the role.

**Answer: BC**

**Explanation:**

To allow cross-account access to resources using IAM roles, the following steps are required:

- Create a role in the AWS account that contains the resources (the trusting account) and specify the AWS account that contains the IAM user (the trusted account) as a trusted entity in the role's trust policy. This allows users from the trusted account to assume the role and access resources in the trusting account.
- Ensure that the IAM user has permission to assume the role in their own AWS account. This can be done by creating an identity policy that allows the sts:AssumeRole action and attaching it to the IAM user or their group.
- Ensure that there are no service control policies (SCPs) in the organization that owns the resources that deny or restrict access to the sts:AssumeRole action or the role itself. SCPs are applied to all accounts in an organization and can override any permissions granted by IAM policies.

Verified References:

- <https://repost.aws/knowledge-center/cross-account-access-iam>
- [https://docs.aws.amazon.com/organizations/latest/userguide/orgs\\_manage\\_accounts\\_access.html](https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_accounts_access.html)
- [https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial\\_cross-account-with-roles.html](https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html)

**NEW QUESTION 62**

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 endpoin
- 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 67**

A company's public Application Load Balancer (ALB) recently experienced a DDoS attack. To mitigate this issue, the company deployed Amazon CloudFront in front of the ALB so that users would not directly access the Amazon EC2 instances behind the ALB.

The company discovers that some traffic is still coming directly into the ALB and is still being handled by the EC2 instances.

Which combination of steps should the company take to ensure that the EC2 instances will receive traffic only from CloudFront? (Choose two.)

- A. Configure CloudFront to add a cache key policy to allow a custom HTTP header that CloudFront sends to the ALB.
- B. Configure CloudFront to add a custom: HTTP header to requests that CloudFront sends to the ALB.
- C. Configure the ALB to forward only requests that contain the custom HTTP header.
- D. Configure the ALB and CloudFront to use the X-Forwarded-For header to check client IP addresses.
- E. Configure the ALB and CloudFront to use the same X.509 certificate that is generated by AWS Certificate Manager (ACM).

**Answer: BC**

**Explanation:**

To prevent users from directly accessing an Application Load Balancer and allow access only through CloudFront, complete these high-level steps: Configure CloudFront to add a custom HTTP header to requests that it sends to the Application Load Balancer. Configure the Application Load Balancer to only forward requests that contain the custom HTTP header. (Optional) Require HTTPS to improve the security of this solution.

<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/restrict-access-to-load-balancer.html>

**NEW QUESTION 72**

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 was 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 documentation<sup>1</sup>, 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 77**

A company is running an Amazon RDS for MySQL DB instance in a VPC. The VPC must not send or receive network traffic through the internet.

A security engineer wants to use AWS Secrets Manager to rotate the DB instance credentials automatically. Because of a security policy, the security engineer cannot use the standard AWS Lambda function that Secrets Manager provides to rotate the credentials.

The security engineer deploys a custom Lambda function in the VPC. The custom Lambda function will be responsible for rotating the secret in Secrets Manager. The security engineer edits the DB instance's security group to allow connections from this function. When the function is invoked, the function cannot communicate with Secrets Manager to rotate the secret properly.

What should the security engineer do so that the function can rotate the secret?

- A. Add an egress-only internet gateway to the VP
- B. Allow only the Lambda function's subnet to route traffic through the egress-only internet gateway.
- C. Add a NAT gateway to the VP
- D. Configure only the Lambda function's subnet with a default route through the NAT gateway.
- E. Configure a VPC peering connection to the default VPC for Secrets Manage
- F. Configure the Lambda function's subnet to use the peering connection for routes.
- G. Configure a Secrets Manager interface VPC endpoint
- H. Include the Lambda function's private subnet during the configuration process.

**Answer: D**

**Explanation:**

You can establish a private connection between your VPC and Secrets Manager by creating an interface VPC endpoint. Interface endpoints are powered by AWS PrivateLink, a technology that enables you to privately access Secrets Manager APIs without an internet gateway, NAT device, VPN connection, or AWS Direct Connect connection. Reference:

<https://docs.aws.amazon.com/secretsmanager/latest/userguide/vpc-endpoint-overview.html>

The correct answer is D. Configure a Secrets Manager interface VPC endpoint. Include the Lambda function's private subnet during the configuration process.

A Secrets Manager interface VPC endpoint is a private connection between the VPC and Secrets Manager that does not require an internet gateway, NAT device, VPN connection, or AWS Direct Connect connection<sup>1</sup>. By configuring a Secrets Manager interface VPC endpoint, the security engineer can enable the custom Lambda function to communicate with Secrets Manager without sending or receiving network traffic through the internet. The security engineer must include the Lambda function's private subnet during the configuration process to allow the function to use the endpoint<sup>2</sup>.

The other options are incorrect for the following reasons:

➤ A. An egress-only internet gateway is a VPC component that allows outbound communication over IPv6 from instances in the VPC to the internet, and prevents the internet from initiating an IPv6 connection with the instances<sup>3</sup>. However, this option does not meet the requirement that the VPC must not send or receive network traffic through the internet. Moreover, an egress-only internet gateway is for use with IPv6 traffic only, and Secrets Manager does not support IPv6 addresses<sup>2</sup>.

➤ B. A NAT gateway is a VPC component that enables instances in a private subnet to connect to the internet or other AWS services, but prevents the internet from initiating connections with those instances<sup>4</sup>. However, this option does not meet the requirement that the VPC must not send or receive network traffic through the internet. Additionally, a NAT gateway requires an elastic IP address, which is a public IPv4 address<sup>4</sup>.

➤ C. A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them using private IPv4 addresses or IPv6 addresses<sup>5</sup>. However, this option does not work because Secrets Manager does not have a default VPC that can be peered with. Furthermore, a VPC peering connection does not provide a private connection to Secrets Manager APIs without an internet gateway or other devices<sup>2</sup>.

**NEW QUESTION 78**

A company is using AWS Organizations to implement a multi-account strategy. The company does not have on-premises infrastructure. All workloads run on AWS. The company currently has eight member accounts. The company anticipates that it will have no more than 20 AWS accounts total at any time.



The company issues a new security policy that contains the following requirements:

- No AWS account should use a VPC within the AWS account for workloads.
- The company should use a centrally managed VPC that all AWS accounts can access to launch workloads in subnets.
- No AWS account should be able to modify another AWS account's application resources within the centrally managed VPC.
- The centrally managed VPC should reside in an existing AWS account that is named Account-A within an organization.

The company uses an AWS CloudFormation template to create a VPC that contains multiple subnets in Account-A. This template exports the subnet IDs through the CloudFormation Outputs section.

Which solution will complete the security setup to meet these requirements?

- A. Use a CloudFormation template in the member accounts to launch workload
- B. Configure the template to use the Fn::ImportValue function to obtain the subnet ID values.
- C. Use a transit gateway in the VPC within Account-
- D. Configure the member accounts to use the transit gateway to access the subnets in Account-A to launch workloads.
- E. Use AWS Resource Access Manager (AWS RAM) to share Account-A's VPC subnets with the remaining member account
- F. Configure the member accounts to use the shared subnets to launch workloads.
- G. Create a peering connection between Account-A and the remaining member account
- H. Configure the member accounts to use the subnets in Account-A through the VPC peering connection to launch workloads.

**Answer: C**

**Explanation:**

The correct answer is C. Use AWS Resource Access Manager (AWS RAM) to share Account-A's VPC

subnets with the remaining member accounts. Configure the member accounts to use the shared subnets to launch workloads.

This answer is correct because AWS RAM is a service that helps you securely share your AWS resources across AWS accounts, within your organization or organizational units (OUs), and with IAM roles and users for supported resource types<sup>1</sup>. One of the supported resource types is VPC subnets<sup>2</sup>, which means you can share the subnets in Account-A's VPC with the other member accounts using AWS RAM. This way, you can meet the requirements of using a centrally managed VPC, avoiding duplicate VPCs in each account, and launching workloads in shared subnets. You can also control the access to the shared subnets by using IAM policies and resource-based policies<sup>3</sup>, which can prevent one account from modifying another account's resources.

The other options are incorrect because:

➤ A. Using a CloudFormation template in the member accounts to launch workloads and using the Fn::ImportValue function to obtain the subnet ID values is not a solution, because Fn::ImportValue can only import values that have been exported by another stack within the same region<sup>4</sup>. This means that you cannot use Fn::ImportValue to reference the subnet IDs that are exported by Account-A's CloudFormation template, unless all the member accounts are in the same region as Account-A. This option also does not avoid creating duplicate VPCs in each account, which is one of the requirements.

➤ B. Using a transit gateway in the VPC within Account-A and configuring the member accounts to use the transit gateway to access the subnets in Account-A to launch workloads is not a solution, because a transit gateway does not allow you to launch workloads in another account's subnets. A transit gateway is a network transit hub that enables you to route traffic between your VPCs and on-premises networks<sup>5</sup>, but it does not enable you to share subnets across accounts.

➤ D. Creating a peering connection between Account-A and the remaining member accounts and configuring the member accounts to use the subnets in Account-A through the VPC peering connection to launch workloads is not a solution, because a VPC peering connection does not allow you to launch workloads in another account's subnets. A VPC peering connection is a networking connection between two VPCs that enables you to route traffic between them privately<sup>6</sup>, but it does not enable you to share subnets across accounts.

References:

1: What is AWS Resource Access Manager? 2: Shareable AWS resources 3: Managing permissions for shared resources 4: Fn::ImportValue 5: What is a transit gateway? 6: What is VPC peering?

**NEW QUESTION 83**

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 Mirrorin
- 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 bucke
- 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 bucke
- 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 documentation<sup>1</sup>, 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 statistics<sup>2</sup>. 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 analysis<sup>3</sup>. 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 servers<sup>4</sup>. 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 VPC<sup>5</sup>. 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 network<sup>6</sup>. 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 85

A company is using Amazon Elastic Container Service (Amazon ECS) to deploy an application that deals with sensitive data. During a recent security audit, the company identified a security issue in which Amazon RDS credentials were stored with the application code in the company's source code repository. A security engineer needs to develop a solution to ensure that database credentials are stored securely and rotated periodically. The credentials should be accessible to the application only. The engineer also needs to prevent database administrators from sharing database credentials as plaintext with other teammates. The solution must also minimize administrative overhead.

Which solution meets these requirements?

- A. Use the IAM Systems Manager Parameter Store to generate database credential.
- B. Use an IAM profile for ECS tasks to restrict access to database credentials to specific containers only.
- C. Use IAM Secrets Manager to store database credential.
- D. Use an IAM inline policy for ECS tasks to restrict access to database credentials to specific containers only.
- E. Use the IAM Systems Manager Parameter Store to store database credential.
- F. Use IAM roles for ECS tasks to restrict access to database credentials to specific containers only.
- G. Use IAM Secrets Manager to store database credential.
- H. Use IAM roles for ECS tasks to restrict access to database credentials to specific containers only.

**Answer: D**

#### Explanation:

To ensure that database credentials are stored securely and rotated periodically, the security engineer should do the following:

- Use AWS Secrets Manager to store database credentials. This allows the security engineer to encrypt and manage secrets centrally, and to configure automatic rotation schedules for them.
- Use IAM roles for ECS tasks to restrict access to database credentials to specific containers only. This allows the security engineer to grant fine-grained permissions to ECS tasks based on their roles, and to avoid sharing credentials as plaintext with other teammates.

### NEW QUESTION 86

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 directly.

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 distribution.
- 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 90

A company uses AWS Organizations to run workloads in multiple AWS accounts. Currently, the individual team members at the company access all Amazon EC2 instances remotely by using SSH or Remote Desktop Protocol (RDP). The company does not have any audit trails, and security groups are occasionally open. The company must secure access management and implement a centralized logging solution. Which solution will meet these requirements MOST securely?

- A. Configure trusted access for AWS Systems Manager in Organizations. Configure a bastion host from the management account. Replace SSH and RDP by using Systems Manager Session Manager from the management account. Configure Session Manager logging to Amazon CloudWatch Logs.
- B. Replace SSH and RDP with AWS Systems Manager Session Manager. Install Systems Manager Agent (SSM Agent) on the instances. Attach the AmazonSSMManagedInstanceCore role to the instances. Configure session data streaming to Amazon CloudWatch Logs. Create a separate logging account that has appropriate cross-account permissions to audit the log data.
- C. Install a bastion host in the management account. Reconfigure all SSH and RDP to allow access only from the bastion host. Install AWS Systems Manager Agent (SSM Agent) on the bastion host. Attach the AmazonSSMManagedInstanceCore role to the bastion host. Configure session data streaming to Amazon CloudWatch Logs in a separate logging account to audit log data.
- D. Replace SSH and RDP with AWS Systems Manager State Manager. Install Systems Manager Agent (SSM Agent) on the instances. Attach

theAmazonSSMManagedInstanceCore role to the instances Configure session data streaming to AmazonCloudTrail Use CloudTrail Insights to analyze the trail data

**Answer: C**

**Explanation:**

To meet the requirements of securing access management and implementing a centralized logging solution, the most secure solution would be to:

- Install a bastion host in the management account.
- Reconfigure all SSH and RDP to allow access only from the bastion host.
- Install AWS Systems Manager Agent (SSM Agent) on the bastion host.
- Attach the AmazonSSMManagedInstanceCore role to the bastion host.
- Configure session data streaming to Amazon CloudWatch Logs in a separate logging account to audit log data

This solution provides the following security benefits:

- It uses AWS Systems Manager Session Manager instead of traditional SSH and RDP protocols, which provides a secure method for accessing EC2 instances without requiring inbound firewall rules or open ports.
- It provides audit trails by configuring Session Manager logging to Amazon CloudWatch Logs and creating a separate logging account to audit the log data.
- It uses the AWS Systems Manager Agent to automate common administrative tasks and improve the security posture of the instances.
- The separate logging account with cross-account permissions provides better data separation and improves security posture.

<https://aws.amazon.com/solutions/implementations/centralized-logging/>

**NEW QUESTION 95**

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 97**

A company is using AWS WAF to protect a customized public API service that is based on Amazon EC2 instances. The API uses an Application Load Balancer. The AWS WAF web ACL is configured with an AWS Managed Rules rule group. After a software upgrade to the API and the client application, some types of requests are no longer working and are causing application stability issues. A security engineer discovers that AWS WAF logging is not turned on for the web ACL. The security engineer needs to immediately return the application to service, resolve the issue, and ensure that logging is not turned off in the future. The security engineer turns on logging for the web ACL and specifies Amazon Cloud-Watch Logs as the destination.

Which additional set of steps should the security engineer take to meet the re-quirements?

- A. Edit the rules in the web ACL to include rules with Count action
- B. Review the logs to determine which rule is blocking the reques
- C. Modify the IAM policy of all AWS WAF administrators so that they cannot remove the log-ging configuration for any AWS WAF web ACLs.
- D. Edit the rules in the web ACL to include rules with Count action
- E. Review the logs to determine which rule is blocking the reques
- F. Modify the AWS WAF resource policy so that AWS WAF administrators cannot remove the log-ging configuration for any AWS WAF web ACLs.
- G. Edit the rules in the web ACL to include rules with Count and Challenge action
- H. Review the logs to determine which rule is blocking the reques
- I. Modify the AWS WAF resource policy so that AWS WAF administrators cannot remove the logging configuration for any AWS WAF web ACLs.
- J. Edit the rules in the web ACL to include rules with Count and Challenge action
- K. Review the logs to determine which rule is blocking the reques
- L. Modify the IAM policy of all AWS WAF administrators so that they cannot remove the logging configuration for any AWS WAF web ACLs.

**Answer: A**

**Explanation:**

This answer is correct because it meets the requirements of returning the application to service, resolving the issue, and ensuring that logging is not turned off in the future. By editing the rules in the web ACL to include rules with Count actions, the security engineer can test the effect of each rule without blocking or allowing requests. By reviewing the logs, the security engineer can identify which rule is causing the problem and modify or delete it accordingly. By modifying the IAM policy of all AWS WAF administrators, the security engineer can restrict their permissions to prevent them from removing the logging configuration for any AWS WAF web ACLs.

**NEW QUESTION 102**

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 rote 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 rote to the new IAM user.
- D. Use AWS 1AM 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 106

A company is evaluating the use of AWS Systems Manager Session Manager to gain 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 file 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 109

A company needs to retain log data archives for several years to be compliant with regulations. The log data is no longer used but it must be retained

What is the MOST secure and cost-effective solution to meet these requirements?

A. Archive the data to Amazon S3 and apply a restrictive bucket policy to deny the `s3 DeleteObject` API

B. Archive the data to Amazon S3 Glacier and apply a Vault Lock policy

C. Archive the data to Amazon S3 and replicate it to a second bucket in a second IAM Region. Choose the S3 Standard-Infrequent Access (S3 Standard-1A) storage class and apply a restrictive bucket policy to deny the `s3 DeleteObject` API

D. Migrate the log data to a 16 TB Amazon Elastic Block Store (Amazon EBS) volume. Create a snapshot of the EBS volume

**Answer:** B

**Explanation:**

To securely and cost-effectively retain log data archives for several years, the company should do the following:

➤ Archive the data to Amazon S3 Glacier and apply a Vault Lock policy. This allows the company to use a low-cost storage class that is designed for long-term archival of data that is rarely accessed. It also allows the company to enforce compliance controls on their S3 Glacier vault by locking a vault access policy that cannot be changed.

#### NEW QUESTION 114

A security engineer is designing a cloud architecture to support an application. The application runs on Amazon EC2 instances and processes sensitive information, including credit card numbers.

The application will send the credit card numbers to a component that is running in an isolated environment. The component will encrypt, store, and decrypt the numbers.

The component then will issue tokens to replace the numbers in other parts of the application.

The component of the application that manages the tokenization process will be deployed on a separate set of EC2 instances. Other components of the application must not be able to store or access the credit card numbers.

Which solution will meet these requirements?

A. Use EC2 Dedicated Instances for the tokenization component of the application.

B. Place the EC2 instances that manage the tokenization process into a partition placement group.

C. Create a separate VPC

D. Deploy new EC2 instances into the separate VPC to support the data tokenization.

E. Deploy the tokenization code onto AWS Nitro Enclaves that are hosted on EC2 instances.

**Answer:** D

**Explanation:**

AWS Nitro Enclaves are isolated and hardened virtual machines that run on EC2 instances and provide a secure environment for processing sensitive data. Nitro Enclaves have no persistent storage, interactive access, or external networking, and they can only communicate with the parent instance through a secure local channel. Nitro Enclaves also support cryptographic attestation, which allows verifying the identity and integrity of the enclave and its code. Nitro Enclaves are ideal for implementing data protection solutions such as tokenization, encryption, and key management.

Using Nitro Enclaves for the tokenization component of the application meets the requirements of isolating the sensitive data from other parts of the application,



encrypting and storing the credit card numbers securely, and issuing tokens to replace the numbers. Other components of the application will not be able to access or store the credit card numbers, as they are only available within the enclave.

**NEW QUESTION 115**

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)<sup>4</sup>. The minimum waiting period is 7 days and the maximum is 30 days<sup>5</sup>. This function prevents the CMK from being used for encryption or decryption operations during the waiting period<sup>4</sup>. The other options are either invalid or ineffective for deleting a CMK within a 24-hour timeframe.

**NEW QUESTION 117**

A company's application team wants to replace an internal application with a new IAM architecture that consists of Amazon EC2 instances, an IAM Lambda function, and an Amazon S3 bucket in a single IAM Region. After an architecture review, the security team mandates that no application network traffic can traverse the public internet at any point. The security team already has an SCP in place for the company's organization in IAM Organizations to restrict the creation of internet gateways. NAT gateways, and egress-only gateways.

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

- A. Create an S3 endpoint that has a full-access policy for the application's VPC.
- B. Create an S3 access point for the S3 bucket
- C. Include a policy that restricts the network origin to VPCs.
- D. Launch the Lambda function
- E. Enable the block public access configuration.
- F. Create a security group that has an outbound rule over port 443 with a destination of the S3 endpoint. Associate the security group with the EC2 instances.
- G. Create a security group that has an outbound rule over port 443 with a destination of the S3 access point. Associate the security group with the EC2 instances.
- H. Launch the Lambda function in a VPC.

**Answer: ADF**

**NEW QUESTION 119**

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 configuration
- 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 AWS
- E. Key Management Service (AWS KMS) customer managed key.
- F. Set the dnssec-enable option to yes in the BIND configuration
- 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 AWS
- 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 key
- 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 122**

A company hosts an application on Amazon EC2 that is subject to specific rules for regulatory compliance. One rule states that traffic to and from the workload must be inspected for network-level attacks. This involves inspecting the whole packet.

To comply with this regulatory rule, a security engineer must install intrusion detection software on a c5n.4xlarge EC2 instance. The engineer must then configure the software to monitor traffic to and from the application instances.

What should the security engineer do next?

- A. Place the network interface in promiscuous mode to capture the traffic.
- B. Configure VPC Flow Logs to send traffic to the monitoring EC2 instance using a Network Load Balancer.
- C. Configure VPC traffic mirroring to send traffic to the monitoring EC2 instance using a Network Load Balancer.



D. Use Amazon Inspector to detect network-level attacks and trigger an IAM Lambda function to send the suspicious packets to the EC2 instance.

**Answer:** D

#### NEW QUESTION 127

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 129

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 132

A company's security engineer wants to receive an email alert whenever Amazon GuardDuty, AWS Identity and Access Management Access Analyzer, or Amazon Macie generate a high-severity security finding. The company uses AWS Control Tower to govern all of its accounts. The company also uses AWS Security Hub with all of the AWS service integrations turned on. Which solution will meet these requirements with the LEAST operational overhead?

- A. Set up separate AWS Lambda functions for GuardDuty, IAM Access Analyzer, and Macie to call each service's public API to retrieve high-severity findings
- B. Use Amazon Simple Notification Service (Amazon SNS) to send the email alert
- C. Create an Amazon EventBridge rule to invoke the functions on a schedule.
- D. Create an Amazon EventBridge rule with a pattern that matches Security Hub findings events with high severity
- E. Configure the rule to send the findings to a target Amazon Simple Notification Service (Amazon SNS) topic
- F. Subscribe the desired email addresses to the SNS topic.
- G. Create an Amazon EventBridge rule with a pattern that matches AWS Control Tower events with high severity
- H. Configure the rule to send the findings to a target Amazon Simple Notification Service (Amazon SNS) topic
- I. Subscribe the desired email addresses to the SNS topic.
- J. Host an application on Amazon EC2 to call the GuardDuty, IAM Access Analyzer, and Macie APIs. Within the application, use the Amazon Simple Notification Service (Amazon SNS) API to retrieve high-severity findings and to send the findings to an SNS topic
- K. Subscribe the desired email addresses to the SNS topic.

**Answer:** B

#### Explanation:

The AWS documentation states that you can create an Amazon EventBridge rule with a pattern that matches Security Hub findings events with high severity. You can then configure the rule to send the findings to a target Amazon Simple Notification Service (Amazon SNS) topic. You can subscribe the desired email addresses to the SNS topic. This method is the least operational overhead way to meet the requirements.

References: : [AWS Security Hub User Guide](#)

#### NEW QUESTION 135

A Development team has built an experimental environment to test a simple static web application. It has built an isolated VPC with a private and a public subnet. The public subnet holds only an Application Load Balancer, a NAT gateway, and an internet gateway. The private subnet holds all of the Amazon EC2 instances.

There are 3 different types of servers Each server type has its own Security Group that limits access to only required connectivity. The Security Groups have both inbound and outbound rules applied Each subnet has both inbound and outbound network ACLs applied to limit access to only required connectivity Which of the following should the team check if a server cannot establish an outbound connection to the internet? (Select THREE.)

- A. The route tables and the outbound rules on the appropriate private subnet security group
- B. The outbound network ACL rules on the private subnet and the Inbound network ACL rules on the public subnet
- C. The outbound network ACL rules on the private subnet and both the inbound and outbound rules on the public subnet
- D. The rules on any host-based firewall that may be applied on the Amazon EC2 instances
- E. The Security Group applied to the Application Load Balancer and NAT gateway
- F. That the 0.0.0.0 route in the private subnet route table points to the internet gateway in the public subnet

**Answer:** CEF

**Explanation:**

because these are the factors that could affect the outbound connection to the internet from a server in a private subnet. The outbound network ACL rules on the private subnet and both the inbound and outbound rules on the public subnet must allow the traffic to pass through<sup>8</sup>. The security group applied to the application load balancer and NAT gateway must also allow the traffic from the private subnet<sup>9</sup>. The 0.0.0.0/0 route in the private subnet route table must point to the NAT gateway in the public subnet, not the internet gateway<sup>10</sup>. The other options are either irrelevant or incorrect for troubleshooting the outbound connection issue.

**NEW QUESTION 139**

A company's Security Engineer has been tasked with restricting a contractor's IAM account access to the company's Amazon EC2 console without providing access to any other AWS services. The contractor's IAM account must not be able to gain access to any other AWS service, even if the IAM account is assigned additional permissions based on IAM group membership.

What should the Security Engineer do to meet these requirements?

- A. Create an Inline IAM user policy that allows for Amazon EC2 access for the contractor's IAM user.
- B. Create an IAM permissions boundary policy that allows Amazon EC2 access
- C. Associate the contractor's IAM account with the IAM permissions boundary policy.
- D. Create an IAM group with an attached policy that allows for Amazon EC2 access
- E. Associate the contractor's IAM account with the IAM group.
- F. Create an IAM role that allows for EC2 and explicitly denies all other service
- G. Instruct the contractor to always assume this role.

**Answer:** B

**NEW QUESTION 144**

Developers in an organization have moved from a standard application deployment to containers. The Security Engineer is tasked with ensuring that the containers are secure. Which strategies will reduce the attack surface and enhance the security of the containers? (Select TWO.)

- A. Use the containers to automate security deployments.
- B. Limit resource consumption (CPU, memory), networking connections, ports, and unnecessary container libraries.
- C. Segregate containers by host, function, and data classification.
- D. Use Docker Notary framework to sign task definitions.
- E. Enable container breakout at the host kernel.

**Answer:** AC

**Explanation:**

these are the strategies that can reduce the attack surface and enhance the security of the containers. Containers are a method of packaging and running applications in isolated environments. Using containers to automate security deployments can help ensure that security patches and updates are applied consistently and quickly across the container fleet. Segregating containers by host, function, and data classification can help limit the impact of a compromise and enforce the principle of least privilege. The other options are either irrelevant or risky for securing containers.

**NEW QUESTION 148**

A company's security engineer has been tasked with restricting a contractor's IAM account access to the company's Amazon EC2 console without providing access to any other IAM services The contractor's IAM account must not be able to gain access to any other IAM service, even if the IAM account is assigned additional permissions based on IAM group membership

What should the security engineer do to meet these requirements?

- A. Create an inline IAM user policy that allows for Amazon EC2 access for the contractor's IAM user
- B. Create an IAM permissions boundary policy that allows Amazon EC2 access Associate the contractor's IAM account with the IAM permissions boundary policy
- C. Create an IAM group with an attached policy that allows for Amazon EC2 access Associate the contractor's IAM account with the IAM group
- D. Create an IAM role that allows for EC2 and explicitly denies all other services Instruct the contractor to always assume this role

**Answer:** B

**Explanation:**

To restrict the contractor's IAM account access to the EC2 console without providing access to any other AWS services, the security engineer should do the following:

- Create an IAM permissions boundary policy that allows EC2 access. This is a policy that defines the maximum permissions that an IAM entity can have.
- Associate the contractor's IAM account with the IAM permissions boundary policy. This means that even if the contractor's IAM account is assigned additional permissions based on IAM group membership, those permissions are limited by the permissions boundary policy.

**NEW QUESTION 153**

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 inactivate the old key and delete it.
- D. Delete the user associated with the keys after every 2 month
- E. Then recreate the user again.
- F. Delete the IAM Role associated with the keys after every 2 month
- 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 Returns 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 inactivate the old key and delete it.

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**NEW QUESTION 158**

A company wants to receive an email notification about critical findings in AWS Security Hub. The company does not have an existing architecture that supports this functionality.

Which solution will meet the requirement?

- A. Create an AWS Lambda function to identify critical Security Hub finding
- B. Create an Amazon Simple Notification Service (Amazon SNS) topic as the target of the Lambda functio
- C. Subscribe an email endpoint to the SNS topic to receive published messages.
- D. Create an Amazon Kinesis Data Firehose delivery strea
- E. Integrate the delivery stream with Amazon EventBridg
- F. Create an EventBridge rule that has a filter to detect critical Security Hub finding
- G. Configure the delivery stream to send the findings to an email address.
- H. Create an Amazon EventBridge rule to detect critical Security Hub finding
- I. Create an Amazon Simple Notification Service (Amazon SNS) topic as the target of the EventBridge rul
- J. Subscribe an email endpoint to the SNS topic to receive published messages.
- K. Create an Amazon EventBridge rule to detect critical Security Hub finding
- L. Create an Amazon Simple Email Service (Amazon SES) topic as the target of the EventBridge rul
- M. Use the Amazon SES API to format the messag
- N. Choose an email address to be the recipient of the message.

**Answer: C**

**Explanation:**

This solution meets the requirement of receiving an email notification about critical findings in AWS Security Hub. Amazon EventBridge is a serverless event bus that can receive events from AWS services and third-party sources, and route them to targets based on rules and filters. Amazon SNS is a fully managed pub/sub service that can send messages to various endpoints, such as email, SMS, mobile push, and HTTP. By creating an EventBridge rule that detects critical Security Hub findings and sends them to an SNS topic, the company can leverage the existing integration between these services and avoid writing custom code or managing servers. By subscribing an email endpoint to the SNS topic, the company can receive published messages in their inbox.

**NEW QUESTION 161**

A security engineer recently rotated the host keys for an Amazon EC2 instance. The security engineer is trying to access the EC2 instance by using the EC2 Instance Connect feature. However, the security engineer receives an error (or failed host key validation. Before the rotation of the host keys EC2 Instance Connect worked correctly with this EC2 instance.

What should the security engineer do to resolve this error?

- A. Import the key material into AWS Key Management Service (AWS KMS).
- B. Manually upload the new host key to the AWS trusted host keys database.
- C. Ensure that the AmazonSSMManagedInstanceCore policy is attached to the EC2 instance profile.
- D. Create a new SSH key pair for the EC2 instance.

**Answer: B**

**Explanation:**

To set up a CloudFront distribution for an S3 bucket that hosts a static website, and to allow only specified IP addresses to access the website, the following steps are required:

➤ Create a CloudFront origin access identity (OAI), which is a special CloudFront user that you can associate with your distribution. An OAI allows you to restrict access to your S3 content by using signed URLs or signed cookies. For more information, see Using an origin access identity to restrict access to your Amazon S3 content.

➤ Create the S3 bucket policy so that only the OAI has access. This will prevent users from accessing the website directly by using S3 URLs, as they will receive an Access Denied error. To do this, use the AWS Policy Generator to create a bucket policy that grants s3:GetObject permission to the OAI, and attach it to the S3 bucket. For more information, see Restricting access to Amazon S3 content by using an origin access identity.

➤ Create an AWS WAF web ACL and add an IP set rule. AWS WAF is a web application firewall service that lets you control access to your web applications. An IP set is a condition that specifies a list of IP addresses or IP address ranges that requests originate from. You can use an IP set rule to allow or block requests based on the IP addresses of the requesters. For more information, see Working with IP match conditions.

➤ Associate the web ACL with the CloudFront distribution. This will ensure that the web ACL filters all requests for your website before they reach your origin. You can do this by using the AWS WAF console, API, or CLI. For more information, see Associating or disassociating a web ACL with a CloudFront distribution. This solution will meet the requirements of allowing only specified IP addresses to access the website and preventing direct access by using S3 URLs.



The other options are incorrect because they either do not create a CloudFront distribution for the S3 bucket (A), do not use an OAI to restrict access to the S3 bucket ©, or do not use AWS WAF to block traffic from outside the specified IP addresses (D).

Verified References:

➤ <https://docs.aws.amazon.com/waf/latest/developerguide/web-acl-ip-conditions.html>

#### NEW QUESTION 166

A company is designing a new application stack. The design includes web servers and backend servers that are hosted on Amazon EC2 instances. The design also includes an Amazon Aurora MySQL DB cluster.

The EC2 instances are in an Auto Scaling group that uses launch templates. The EC2 instances for the web layer and the backend layer are backed by Amazon Elastic Block Store (Amazon EBS) volumes. No layers are encrypted at rest. A security engineer needs to implement encryption at rest.

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

- A. Modify EBS default encryption settings in the target AWS Region to enable encryption
- B. Use an Auto Scaling group instance refresh.
- C. Modify the launch templates for the web layer and the backend layer to add AWS Certificate Manager (ACM) encryption for the attached EBS volume
- D. Use an Auto Scaling group instance refresh.
- E. Create a new AWS Key Management Service (AWS KMS) encrypted DB cluster from a snapshot of the existing DB cluster.
- F. Apply AWS Key Management Service (AWS KMS) encryption to the existing DB cluster.
- G. Apply AWS Certificate Manager (ACM) encryption to the existing DB cluster.

**Answer: AC**

#### Explanation:

<https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Overview.Encryption.html> <https://aws.amazon.com/premiumsupport/knowledge-center/ebs-automatic-encryption/>

To implement encryption at rest for both the EC2 instances and the Aurora DB cluster, the following steps are required:

- For the EC2 instances, modify the EBS default encryption settings in the target AWS Region to enable encryption. This will ensure that any new EBS volumes created in that Region are encrypted by default using an AWS managed key. Alternatively, you can specify a customer managed key when creating new EBS volumes. For more information, see Amazon EBS encryption.
- Use an Auto Scaling group instance refresh to replace the existing EC2 instances with new ones that have encrypted EBS volumes attached. An instance refresh is a feature that helps you update all instances in an Auto Scaling group in a rolling fashion without the need to manage the instance replacement process manually. For more information, see Replacing Auto Scaling instances based on an instance refresh.
- For the Aurora DB cluster, create a new AWS Key Management Service (AWS KMS) encrypted DB cluster from a snapshot of the existing DB cluster. You can use either an AWS managed key or a customer managed key to encrypt the new DB cluster. You cannot enable or disable encryption for an existing DB cluster, so you have to create a new one from a snapshot. For more information, see Encrypting Amazon Aurora resources.

The other options are incorrect because they either do not enable encryption at rest for the resources (B, D), or they use the wrong service for encryption (E).

Verified References:

- <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSEncryption.html>
- <https://docs.aws.amazon.com/autoscaling/ec2/userguide/asg-instance-refresh.html>
- <https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Overview.Encryption.html>

#### NEW QUESTION 170

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