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DEMO VERSION

Amazon

DOP-C02 Exam

AWS Certified DevOps Engineer - Professional Exam

Exam Latest Version: 18.5

A company has a mobile application that makes HTTP API calls to an Application Load Balancer (ALB). The ALB routes requests to an AWS Lambda function. Many different versions of the application are in use at any given time, including versions that are in testing by a subset of users. The version of the application is defined in the user-agent header that is sent with all requests to the API.

After a series of recent changes to the API, the company has observed issues with the application. The company needs to gather a metric for each API operation by response code for each version of the application that is in use. A DevOps engineer has modified the Lambda function to extract the API operation name, version information from the user-agent header and response code.

Which additional set of actions should the DevOps engineer take to gather the required metrics?

A: Modify the Lambda function to write the API operation name, response code, and version number as a log line to an Amazon CloudWatch Logs log group. Configure a CloudWatch Logs metric filter that increments a metric for each API operation name. Specify response code and application version as dimensions for the metric.

B: Modify the Lambda function to write the API operation name, response code, and version number as a log line to an Amazon CloudWatch Logs log group. Configure a CloudWatch Logs Insights query to populate CloudWatch metrics from the log lines. Specify response code and application version as dimensions for the metric.

C: Configure the ALB access logs to write to an Amazon CloudWatch Logs log group. Modify the Lambda function to respond to the ALB with the API operation name, response code, and version number as response metadata. Configure a CloudWatch Logs metric filter that increments a metric for each API operation name. Specify response code and application version as dimensions for the metric.

D: Configure AWS X-Ray integration on the Lambda function. Modify the Lambda function to create an X-Ray subsegment with the API operation name, response code, and version number. Configure X-Ray insights to extract an aggregated metric for each API operation name and to publish the metric to Amazon CloudWatch. Specify response code and application version as dimensions for the metric.

Correct Answer: A

Explanation:

"Note that the metric filter is different from a log insights query, where the experience is interactive and provides immediate search results for the user to investigate. No automatic action can be invoked from an insights query. Metric filters, on the other hand, will generate metric data in the form of a time series. This lets you create alarms that integrate into your ITSM processes, execute AWS Lambda functions, or even create anomaly detection models." https://aws.amazon.com/blogs/mt/quantify-custom-application-metrics-with-amazon-cloudwatch-logs-and-metric-filters/

Question 2. (Multi Select)

A company must encrypt all AMIs that the company shares across accounts. A DevOps engineer has access to a source account where an unencrypted custom AMI has been built. The DevOps engineer also has access to a target account where an Amazon EC2 Auto Scaling group will launch EC2 instances from the AMI. The DevOps engineer must share the AMI with the target account.

The company has created an AWS Key Management Service (AWS KMS) key in the source account.

Which additional steps should the DevOps engineer perform to meet the requirements? (Choose three.)

A: In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.
B: In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the default Amazon Elastic Block Store (Amazon EBS) encryption key in the copy action.
C: In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.
D: In the source account, modify the key policy to give the target account permissions to create a grant. In the target account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role.
E: In the source account, share the unencrypted AMI with the target account.
F: In the source account, share the encrypted AMI with the target account.

Correct Answer: A, D, F

Explanation:

The Auto Scaling group service-linked role must have a specific grant in the source account in order to decrypt the encrypted AMI. This is because the service-linked role does not have permissions to assume the default IAM role in the source account.

The following steps are required to meet the requirements:

In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.

In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.

In the source account, share the encrypted AMI with the target account.

In the target account, attach the KMS grant to the Auto Scaling group service-linked role.

The first three steps are the same as the steps that I described earlier. The fourth step is required to grant the Auto Scaling group service-linked role permissions to decrypt the AMI in the target account.

Question 3. (Multi Select)

A company must encrypt all AMIs that the company shares across accounts. A DevOps engineer has access to a source account where an unencrypted custom AMI has been built. The DevOps engineer also has access to a target account where an Amazon EC2 Auto Scaling group will launch EC2 instances from the AMI. The DevOps engineer must share the AMI with the target account.

The company has created an AWS Key Management Service (AWS KMS) key in the source account.

Which additional steps should the DevOps engineer perform to meet the requirements? (Choose three.)

A: In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.

B: In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the default Amazon Elastic Block Store (Amazon EBS) encryption key in the copy action.

C: In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.

D: In the source account, modify the key policy to give the target account permissions to create a grant. In the target account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role.

E: In the source account, share the unencrypted AMI with the target account.

F: In the source account, share the encrypted AMI with the target account.

Correct Answer: A, D, F

Explanation:

The Auto Scaling group service-linked role must have a specific grant in the source account in order to decrypt the encrypted AMI. This is because the service-linked role does not have permissions to assume the default IAM role in the source account.

The following steps are required to meet the requirements:

In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.

In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.

In the source account, share the encrypted AMI with the target account.

In the target account, attach the KMS grant to the Auto Scaling group service-linked role.

The first three steps are the same as the steps that I described earlier. The fourth step is required to grant the Auto Scaling group service-linked role permissions to decrypt the AMI in the target account.

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Question 4. (Multi Select)

A company uses AWS CodePipeline pipelines to automate releases of its application A typical

pipeline consists of three stages build, test, and deployment. The company has been using a separate AWS CodeBuild project to run scripts for each stage. However, the company now wants to use AWS CodeDeploy to handle the deployment stage of the pipelines.

The company has packaged the application as an RPM package and must deploy the application to a fleet of Amazon EC2 instances. The EC2 instances are in an EC2 Auto Scaling group and are launched from a common AMI.

Which combination of steps should a DevOps engineer perform to meet these requirements? (Choose two.)

A: Create a new version of the common AMI with the CodeDeploy agent installed. Update the IAM role of the EC2 instances to allow access to CodeDeploy.

B: Create a new version of the common AMI with the CodeDeploy agent installed. Create an AppSpec file that contains application deployment scripts and grants access to CodeDeploy.

C: Create an application in CodeDeploy. Configure an in-place deployment type. Specify the Auto Scaling group as the deployment target. Add a step to the CodePipeline pipeline to use EC2 Image Builder to create a new AMI. Configure CodeDeploy to deploy the newly created AMI.

D: Create an application in CodeDeploy. Configure an in-place deployment type. Specify the Auto Scaling group as the deployment target. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.

E: Create an application in CodeDeploy. Configure an in-place deployment type. Specify the EC2 instances that are launched from the common AMI as the deployment target. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.

Correct Answer: A, D

Explanation:

https://docs.aws.amazon.com/codedeploy/latest/userguide/integrations-aws-auto-scaling.html

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Question 5. (Multi Select)

A company's security team requires that all external Application Load Balancers (ALBs) and Amazon API Gateway APIs are associated with AWS WAF web ACLs. The company has

hundreds of AWS accounts, all of which are included in a single organization in AWS Organizations. The company has configured AWS Config for the organization. During an audit, the company finds some externally facing ALBs that are not associated with AWS WAF web ACLs.

Which combination of steps should a DevOps engineer take to prevent future violations? (Choose two.)

A: Delegate AWS Firewall Manager to a security account.
B: Delegate Amazon GuardDuty to a security account.
C: Create an AWS Firewall Manager policy to attach AWS WAF web ACLs to any newly created ALBs and API Gateway APIs.
D: Create an Amazon GuardDuty policy to attach AWS WAF web ACLs to any newly created ALBs and API Gateway APIs.
E: Configure an AWS Config managed rule to attach AWS WAF web ACLs to any newly created ALBs and API Gateway APIs.

Correct Answer: A, C

Explanation:

If instead you want to automatically apply the policy to existing in-scope resources, choose Auto remediate any noncompliant resources. This option creates a web ACL in each applicable account within the AWS organization and associates the web ACL with the resources in the accounts. When you choose Auto remediate any noncompliant resources, you can also choose to remove existing web ACL associations from in-scope resources, for the web ACLs that aren't managed by another active Firewall Manager policy. If you choose this option, Firewall Manager first associates the policy's web ACL with the resources, and then removes the prior associations. If a resource has an association with another web ACL that's managed by a different active Firewall Manager policy, this choice doesn't affect that association.

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