

DOP-C02 Dumps

AWS Certified DevOps Engineer - Professional

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NEW QUESTION 1

A company wants to use AWS development tools to replace its current bash deployment scripts. The company currently deploys a LAMP application to a group of Amazon EC2 instances behind an Application Load Balancer (ALB). During the deployments, the company unit tests the committed application, stops and starts services, unregisters and re-registers instances with the load balancer, and updates file permissions. The company wants to maintain the same deployment functionality through the shift to using AWS services.

Which solution will meet these requirements?

- A. Use AWS CodeBuild to test the applicatio
- B. Use bash scripts invoked by AWS CodeDeploy's appspec.yml file to restart services, and deregister and register instances with the AL
- C. Use the appspec.yml file to update file permissions without a custom script.
- D. Use AWS CodePipeline to move the application from the AWS CodeCommit repository to AWS CodeDeplo
- E. Use CodeDeploy's deployment group to test the application, unregister and re-register instances with the AL
- F. and restart service
- G. Use the appspec.yml file to update file permissions without a custom script.
- H. Use AWS CodePipeline to move the application source code from the AWS CodeCommit repository to AWS CodeDeplo
- I. Use CodeDeploy to test the applicatio
- J. Use CodeDeploy's appspec.yml file to restart services and update permissions without a custom scrip
- K. Use AWS CodeBuild to unregister and re-register instances with the ALB.
- L. Use AWS CodePipeline to trigger AWS CodeBuild to test the applicatio
- M. Use bash scripts invoked by AWS CodeDeploy's appspec.yml file to restart service
- N. Unregister and re-register the instances in the AWS CodeDeploy deployment group with the AL
- O. Update the appspec.yml file to update file permissions without a custom script.

Answer: D

Explanation:

<https://aws.amazon.com/blogs/devops/how-to-test-and-debug-aws-codedeploy-locally-before-you-ship-your-code/#:~:text=You%20can%20test%20application%20code,local%20server%20or%20EC2%20instance.>

NEW QUESTION 2

A company runs applications in AWS accounts that are in an organization in AWS Organizations. The applications use Amazon EC2 instances and Amazon S3. The company wants to detect potentially compromised EC2 instances, suspicious network activity, and unusual API activity in its existing AWS accounts and in any AWS accounts that the company creates in the future. When the company detects one of these events, the company wants to use an existing Amazon Simple Notification Service (Amazon SNS) topic to send a notification to its operational support team for investigation and remediation. Which solution will meet these requirements in accordance with AWS best practices?

- A. In the organization's management account, configure an AWS account as the Amazon GuardDuty administrator account.
- B. In the GuardDuty administrator account, add the company's existing AWS accounts to GuardDuty as members. In the GuardDuty administrator account, create an Amazon EventBridge rule with an event pattern to match GuardDuty events and to forward matching events to the SNS topic.
- C. In the organization's management account, configure Amazon GuardDuty to add newly created AWS accounts by invitation and to send invitations to the existing AWS accounts. Create an AWS CloudFormation stack set that accepts the GuardDuty invitation and creates an Amazon EventBridge rule. Configure the rule with an event pattern to match GuardDuty events and to forward matching events to the SNS topic.
- D. GuardDuty events and to forward matching events to the SNS topic.
- E. Configure the CloudFormation stack set to deploy into all AWS accounts in the organization.
- F. In the organization's management account, create an Amazon EventBridge rule with an event pattern to match Security Hub events and to forward matching events to the SNS topic.
- G. create an AWS CloudTrail organization trail. Activate the organization trail in all AWS accounts in the organization.
- H. Create an SCP that enables VPC Flow Logs in each account in the organization.
- I. Configure AWS Security Hub for the organization. Create an Amazon EventBridge rule with an event pattern to match Security Hub events and to forward matching events to the SNS topic.
- J. In the organization's management account, configure an AWS account as the AWS CloudTrail administrator account in the CloudTrail administrator account. create a CloudTrail organization trail.
- K. Add the company's existing AWS accounts to the organization trail. Create an SCP that enables VPC Flow Logs in each account in the organization.
- L. Configure AWS Security Hub for the organization.
- M. Create an Amazon EventBridge rule with an event pattern to match Security Hub events and to forward matching events to the SNS topic.

Answer: B

Explanation:

It allows the company to detect potentially compromised EC2 instances, suspicious network activity, and unusual API activity in its existing AWS accounts and in any AWS accounts that the company creates in the future using Amazon GuardDuty. It also provides a solution for automatically adding future AWS accounts to GuardDuty by configuring GuardDuty to add newly created AWS accounts by invitation and to send invitations to the existing AWS accounts.

NEW QUESTION 3

A DevOps engineer needs to apply a core set of security controls to an existing set of AWS accounts. The accounts are in an organization in AWS Organizations. Individual teams will administer individual accounts by using the AdministratorAccess AWS managed policy. For all accounts, AWS CloudTrail and AWS Config must be turned on in all available AWS Regions. Individual account administrators must not be able to edit or delete any of the baseline resources. However, individual account administrators must be able to edit or delete their own CloudTrail trails and AWS Config rules. Which solution will meet these requirements in the MOST operationally efficient way?

- A. Create an AWS CloudFormation template that defines the standard account resource.
- B. Deploy the template to all accounts from the organization's management account by using CloudFormation StackSet.
- C. Set the stack policy to deny Update/Delete actions.
- D. Enable AWS Control Tower.
- E. Enroll the existing accounts in AWS Control Tower.
- F. Grant the individual account administrators access to CloudTrail and AWS Config.
- G. Designate an AWS Config management account.
- H. Create AWS Config recorders in all accounts by using AWS CloudFormation StackSet.

- I. Deploy AWS Config rules to the organization by using the AWS Config management account
- J. Create a CloudTrail organization trail in the organization's management account
- K. Deny modification or deletion of the AWS Config recorders by using an SCP.
- L. Create an AWS CloudFormation template that defines the standard account resource
- M. Deploy the template to all accounts from the organization's management account by using Cloud Formation StackSets Create an SCP that prevents updates or deletions to CloudTrail resources or AWS Config resources unless the principal is an administrator of the organization's management account.

Answer: D

NEW QUESTION 4

A DevOps engineer is designing an application that integrates with a legacy REST API. The application has an AWS Lambda function that reads records from an Amazon Kinesis data stream. The Lambda function sends the records to the legacy REST API.

Approximately 10% of the records that the Lambda function sends from the Kinesis data stream have data errors and must be processed manually. The Lambda function event source configuration has an Amazon Simple Queue Service (Amazon SQS) dead-letter queue as an on-failure destination. The DevOps engineer has configured the Lambda function to process records in batches and has implemented retries in case of failure.

During testing the DevOps engineer notices that the dead-letter queue contains many records that have no data errors and that already have been processed by the legacy REST API. The DevOps engineer needs to configure the Lambda function's event source options to reduce the number of errorless records that are sent to the dead-letter queue.

Which solution will meet these requirements?

- A. Increase the retry attempts
- B. Configure the setting to split the batch when an error occurs
- C. Increase the concurrent batches per shard
- D. Decrease the maximum age of record

Answer: B

Explanation:

This solution will meet the requirements because it will reduce the number of errorless records that are sent to the dead-letter queue. When you configure the setting to split the batch when an error occurs, Lambda will retry only the records that caused the error, instead of retrying the entire batch. This way, the records that have no data errors and have already been processed by the legacy REST API will not be retried and sent to the dead-letter queue unnecessarily.

<https://docs.aws.amazon.com/lambda/latest/dg/with-kinesis.html>

NEW QUESTION 5

An application runs on Amazon EC2 instances behind an Application Load Balancer (ALB). A DevOps engineer is using AWS CodeDeploy to release a new version. The deployment fails during the AllowTraffic lifecycle event, but a cause for the failure is not indicated in the deployment logs.

What would cause this?

- A. The appspec
- B. yml file contains an invalid script that runs in the AllowTraffic lifecycle hook.
- C. The user who initiated the deployment does not have the necessary permissions to interact with the ALB.
- D. The health checks specified for the ALB target group are misconfigured.
- E. The CodeDeploy agent was not installed in the EC2 instances that are part of the ALB target group.

Answer: C

Explanation:

This failure is typically due to incorrectly configured health checks in Elastic Load Balancing for the Classic Load Balancer, Application Load Balancer, or Network Load Balancer used to manage traffic for the deployment group. To resolve the issue, review and correct any errors in the health check configuration for the load balancer. <https://docs.aws.amazon.com/codedeploy/latest/userguide/troubleshooting-deployments.html#troubleshooting-deployments-allowtraffic-no-logs>

NEW QUESTION 6

A company runs an application on one Amazon EC2 instance. Application metadata is stored in Amazon S3 and must be retrieved if the instance is restarted. The instance must restart or relaunch automatically if the instance becomes unresponsive.

Which solution will meet these requirements?

- A. Create an Amazon CloudWatch alarm for the StatusCheckFailed metric
- B. Use the recover action to stop and start the instance
- C. Use an S3 event notification to push the metadata to the instance when the instance is back up and running.
- D. Configure AWS OpsWorks, and use the auto healing feature to stop and start the instance
- E. Use a lifecycle event in OpsWorks to pull the metadata from Amazon S3 and update it on the instance.
- F. Use EC2 Auto Recovery to automatically stop and start the instance in case of a failure
- G. Use an S3 event notification to push the metadata to the instance when the instance is back up and running.
- H. Use AWS CloudFormation to create an EC2 instance that includes the UserData property for the EC2 resource
- I. Add a command in UserData to retrieve the application metadata from Amazon S3.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/mt/how-to-set-up-aws-opsworks-stacks-auto-healing-notifications-in-amazon-cloudwatch-events/>

NEW QUESTION 7

A company has an application that runs on AWS Lambda and sends logs to Amazon CloudWatch Logs. An Amazon Kinesis data stream is subscribed to the log groups in CloudWatch Logs. A single consumer Lambda function processes the logs from the data stream and stores the logs in an Amazon S3 bucket.

The company's DevOps team has noticed high latency during the processing and ingestion of some logs.

Which combination of steps will reduce the latency? (Select THREE.)

- A. Create a data stream consumer with enhanced fan-out
- B. Set the Lambda function that processes the logs as the consumer.

- C. Increase the ParallelizationFactor setting in the Lambda event source mapping.
- D. Configure reserved concurrency for the Lambda function that processes the logs.
- E. Increase the batch size in the Kinesis data stream.
- F. Turn off the ReportBatchItemFailures setting in the Lambda event source mapping.
- G. Increase the number of shards in the Kinesis data stream.

Answer: ABC

Explanation:

The latency in processing and ingesting logs can be caused by several factors, such as the throughput of the Kinesis data stream, the concurrency of the Lambda function, and the configuration of the event source mapping. To reduce the latency, the following steps can be taken:

? Create a data stream consumer with enhanced fan-out. Set the Lambda function that processes the logs as the consumer. This will allow the Lambda function to receive records from the data stream with dedicated throughput of up to 2 MB per second per shard, independent of other consumers¹. This will reduce the contention and delay in accessing the data stream.

? Increase the ParallelizationFactor setting in the Lambda event source mapping. This will allow the Lambda service to invoke more instances of the function concurrently to process the records from the data stream². This will increase the processing capacity and reduce the backlog of records in the data stream.

? Configure reserved concurrency for the Lambda function that processes the logs. This will ensure that the function has enough concurrency available to handle the increased load from the data stream³. This will prevent the function from being throttled by the account-level concurrency limit.

The other options are not effective or may have negative impacts on the latency. Option D is not suitable because increasing the batch size in the Kinesis data stream will increase the amount of data that the Lambda function has to process in each invocation, which may increase the execution time and latency⁴. Option E is not advisable because turning off the ReportBatchItemFailures setting in the Lambda event source mapping will prevent the Lambda service from retrying the failed records, which may result in data loss. Option F is not necessary because increasing the number of shards in the Kinesis data stream will increase the throughput of the data stream, but it will not affect the processing speed of the Lambda function, which is the bottleneck in this scenario.

References:

- ? 1: Using AWS Lambda with Amazon Kinesis Data Streams - AWS Lambda
- ? 2: AWS Lambda event source mappings - AWS Lambda
- ? 3: Managing concurrency for a Lambda function - AWS Lambda
- ? 4: AWS Lambda function scaling - AWS Lambda
- ? : AWS Lambda event source mappings - AWS Lambda
- ? : Scaling Amazon Kinesis Data Streams with AWS CloudFormation - Amazon Kinesis Data Streams

NEW QUESTION 8

A company deploys a web application on Amazon EC2 instances that are behind an Application Load Balancer (ALB). The company stores the application code in an AWS CodeCommit repository. When code is merged to the main branch, an AWS Lambda function invokes an AWS CodeBuild project. The CodeBuild project packages the code, stores the packaged code in AWS CodeArtifact, and invokes AWS Systems Manager Run Command to deploy the packaged code to the EC2 instances.

Previous deployments have resulted in defects, EC2 instances that are not running the latest version of the packaged code, and inconsistencies between instances.

Which combination of actions should a DevOps engineer take to implement a more reliable deployment solution? (Select TWO.)

- A. Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provide
- B. Configure pipeline stages that run the CodeBuild project in parallel to build and test the applicatio
- C. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action.
- D. Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provide
- E. Create separate pipeline stages that run a CodeBuild project to build and then test the applicatio
- F. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action.
- G. Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instance
- H. Configure the ALB for the deployment group.
- I. Create individual Lambda functions that use AWS CodeDeploy instead of Systems Manager to run build, test, and deploy actions.
- J. Create an Amazon S3 bucke
- K. Modify the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifac
- L. Use deploy actions in CodeDeploy to deploy the artifact to the EC2 instances.

Answer: AC

Explanation:

To implement a more reliable deployment solution, a DevOps engineer should take the following actions:

? Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provider. Configure pipeline stages that run the CodeBuild project in parallel to build and test the application. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action. This action will improve the deployment reliability by automating the entire process from code commit to deployment, reducing human errors and inconsistencies. By running the build and test stages in parallel, the pipeline can also speed up the delivery time and provide faster feedback. By using CodeDeploy as the deployment action, the pipeline can leverage the features of CodeDeploy, such as traffic shifting, health checks, rollback, and deployment configuration¹²³

? Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instances. Configure the ALB for the deployment group. This action will improve the deployment reliability by using CodeDeploy to orchestrate the deployment across multiple EC2 instances behind an ALB. CodeDeploy can perform blue/green deployments or in-place deployments with traffic shifting, which can minimize downtime and reduce risks. CodeDeploy can also monitor the health of the instances during and after the deployment, and automatically roll back if any issues are detected. By configuring the ALB for the deployment group, CodeDeploy can register and deregister instances from the load balancer as needed, ensuring that only healthy instances receive traffic⁴⁵

The other options are not correct because they do not improve the deployment reliability or follow best practices. Creating separate pipeline stages that run a CodeBuild project to build and then test the application is not a good option because it will increase the pipeline execution time and delay the feedback loop. Creating individual Lambda functions that use CodeDeploy instead of Systems Manager to run build, test, and deploy actions is not a valid option because it will add unnecessary complexity and cost to the solution. Lambda functions are not designed for long-running tasks such as building or deploying applications. Creating an Amazon S3 bucket and modifying the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifact is not a necessary option because it will not affect the deployment reliability. CodeArtifact is a secure, scalable, and cost-effective package management service that can store and share software packages for application development⁶⁷

References:

- ? 1: What is AWS CodePipeline? - AWS CodePipeline
- ? 2: Create a pipeline in AWS CodePipeline - AWS CodePipeline
- ? 3: Deploy an application with AWS CodeDeploy - AWS CodePipeline
- ? 4: What is AWS CodeDeploy? - AWS CodeDeploy
- ? 5: Configure an Application Load Balancer for your blue/green deployments - AWS CodeDeploy
- ? 6: What is AWS Lambda? - AWS Lambda
- ? 7: What is AWS CodeArtifact? - AWS CodeArtifact

NEW QUESTION 9

A company uses Amazon S3 to store proprietary information. The development team creates buckets for new projects on a daily basis. The security team wants to ensure that all existing and future buckets have encryption logging and versioning enabled. Additionally, no buckets should ever be publicly read or write accessible.

What should a DevOps engineer do to meet these requirements?

- A. Enable AWS CloudTrail and configure automatic remediation using AWS Lambda.
- B. Enable AWS Config rules and configure automatic remediation using AWS Systems Manager documents.
- C. Enable AWS Trusted Advisor and configure automatic remediation using Amazon EventBridge.
- D. Enable AWS Systems Manager and configure automatic remediation using Systems Manager documents.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/mt/aws-config-auto-remediation-s3-compliance/> <https://aws.amazon.com/blogs/aws/aws-config-rules-dynamic-compliance-checking-for-cloud-resources/>

NEW QUESTION 10

A development team is using AWS CodeCommit to version control application code and AWS CodePipeline to orchestrate software deployments. The team has decided to use a remote main branch as the trigger for the pipeline to integrate code changes. A developer has pushed code changes to the CodeCommit repository, but noticed that the pipeline had no reaction, even after 10 minutes.

Which of the following actions should be taken to troubleshoot this issue?

- A. Check that an Amazon EventBridge rule has been created for the main branch to trigger the pipeline.
- B. Check that the CodePipeline service role has permission to access the CodeCommit repository.
- C. Check that the developer's IAM role has permission to push to the CodeCommit repository.
- D. Check to see if the pipeline failed to start because of CodeCommit errors in Amazon CloudWatch Logs.

Answer: A

Explanation:

When you create a pipeline from CodePipeline during the step-by-step it creates a CloudWatch Event rule for a given branch and repo like this:

```
{
  "source": [ "aws.codecommit"
],
  "detail-type": [
    "CodeCommit Repository State Change"
],
  "resources": [
    "arn:aws:codecommit:us-east-1:xxxxx:repo-name"
],
  "detail": {
    "event": [ "referenceCreated", "referenceUpdated"
],
    "referenceType": [ "branch"
],
    "referenceName": [ "master"
]
}
}
```

<https://docs.aws.amazon.com/codepipeline/latest/userguide/pipelines-trigger-source-repo-changes-console.html>

NEW QUESTION 10

A company is implementing a well-architected design for its globally accessible API stack. The design needs to ensure both high reliability and fast response times for users located in North America and Europe.

The API stack contains the following three tiers: Amazon API Gateway

AWS Lambda Amazon DynamoDB

Which solution will meet the requirements?

- A. Configure Amazon Route 53 to point to API Gateway APIs in North America and Europe using health check
- B. Configure the APIs to forward requests to a Lambda function in that Region
- C. Configure the Lambda functions to retrieve and update the data in a DynamoDB table in the same Region as the Lambda function.
- D. Configure Amazon Route 53 to point to API Gateway APIs in North America and Europe using latency-based routing and health check
- E. Configure the APIs to forward requests to a Lambda function in that Region
- F. Configure the Lambda functions to retrieve and update the data in a DynamoDB global table.
- G. Configure Amazon Route 53 to point to API Gateway in North America, create a disaster recovery API in Europe, and configure both APIs to forward requests to the Lambda functions in that Region
- H. Retrieve the data from a DynamoDB global table
- I. Deploy a Lambda function to check the North America API health every 5 minute
- J. In the event of a failure, update Route 53 to point to the disaster recovery API.
- K. Configure Amazon Route 53 to point to API Gateway API in North America using latency-based routing
- L. Configure the API to forward requests to the Lambda function in the Region nearest to the user
- M. Configure the Lambda function to retrieve and update the data in a DynamoDB table.

Answer: B

NEW QUESTION 11

A company hosts its staging website using an Amazon EC2 instance backed with Amazon EBS storage. The company wants to recover quickly with minimal data

losses in the event of network connectivity issues or power failures on the EC2 instance.
Which solution will meet these requirements?

- A. Add the instance to an EC2 Auto Scaling group with the minimum, maximum, and desired capacity set to 1.
- B. Add the instance to an EC2 Auto Scaling group with a lifecycle hook to detach the EBS volume when the EC2 instance shuts down or terminates.
- C. Create an Amazon CloudWatch alarm for the StatusCheckFailed System metric and select the EC2 action to recover the instance.
- D. Create an Amazon CloudWatch alarm for the StatusCheckFailed Instance metric and select the EC2 action to reboot the instance.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-instance-recover.html>

NEW QUESTION 15

A company uses AWS Organizations and AWS Control Tower to manage all the company's AWS accounts. The company uses the Enterprise Support plan. A DevOps engineer is using Account Factory for Terraform (AFT) to provision new accounts. When new accounts are provisioned, the DevOps engineer notices that the support plan for the new accounts is set to the Basic Support plan. The DevOps engineer needs to implement a solution to provision the new accounts with the Enterprise Support plan.

Which solution will meet these requirements?

- A. Use an AWS Config conformance pack to deploy the account-part-of-organizations AWS Config rule and to automatically remediate any noncompliant accounts.
- B. Create an AWS Lambda function to create a ticket for AWS Support to add the account to the Enterprise Support plan.
- C. Grant the Lambda function the support:ResolveCase permission.
- D. Add an additional value to the control_tower_parameters input to set the AWSEnterpriseSupport parameter as the organization's management account number.
- E. Set the aft_feature_enterprise_support feature flag to True in the AFT deployment input configuration.
- F. Redeploy AFT and apply the changes.

Answer: D

Explanation:

AWS Organizations is a service that helps to manage multiple AWS accounts. AWS Control Tower is a service that makes it easy to set up and govern secure, compliant multi-account AWS environments. Account Factory for Terraform (AFT) is an AWS Control Tower feature that provisions new accounts using Terraform templates. To provision new accounts with the Enterprise Support plan, the DevOps engineer can set the aft_feature_enterprise_support feature flag to True in the AFT deployment input configuration. This flag enables the Enterprise Support plan for newly provisioned accounts.

<https://docs.aws.amazon.com/controltower/latest/userguide/aft-feature-options.html>

NEW QUESTION 16

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.
- B. Configure a CloudWatch Logs metric filter that increments a metric for each API operation name.
- C. Specify response code and application version as dimensions for the metric.
- D. 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.
- E. Configure a CloudWatch Logs Insights query to populate CloudWatch metrics from the log line.
- F. Specify response code and application version as dimensions for the metric.
- G. Configure the ALB access logs to write to an Amazon CloudWatch Logs log group.
- H. Modify the Lambda function to respond to the ALB with the API operation name, response code, and version number as response metadata.
- I. Configure a CloudWatch Logs metric filter that increments a metric for each API operation name.
- J. Specify response code and application version as dimensions for the metric.
- K. Configure AWS X-Ray integration on the Lambda function.
- L. Modify the Lambda function to create an X-Ray subsegment with the API operation name, response code, and version number.
- M. Configure X-Ray insights to extract an aggregated metric for each API operation name and to publish the metric to Amazon CloudWatch.
- N. Specify response code and application version as dimensions for the metric.

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/>

NEW QUESTION 18

A growing company manages more than 50 accounts in an organization in AWS Organizations. The company has configured its applications to send logs to Amazon CloudWatch Logs.

A DevOps engineer needs to aggregate logs so that the company can quickly search the logs to respond to future security incidents. The DevOps engineer has created a new AWS account for centralized monitoring.

Which combination of steps should the DevOps engineer take to make the application logs searchable from the monitoring account? (Select THREE.)

- A. In the monitoring account, download an AWS CloudFormation template from CloudWatch to use in Organization.
- B. Use CloudFormation StackSets in the organization's management account to deploy the CloudFormation template to the entire organization.

- C. Create an AWS CloudFormation template that defines an IAM role
- D. Configure the role to allow logs-amazonaws.com to perform the logs:Link action if the aws:ResourceAccount property is equal to the monitoring account ID
- E. Use CloudFormation StackSets in the organization's management account to deploy the CloudFormation template to the entire organization.
- F. Create an IAM role in the monitoring account
- G. Attach a trust policy that allows logs.amazonaws.com to perform the iam:CreateSink action if the aws:PrincipalOrgId property is equal to the organization ID.
- H. In the organization's management account, enable the logging policies for the organization.
- I. Use CloudWatch Observability Access Manager in the monitoring account to create a sink
- J. Allow logs to be shared with the monitoring account
- K. Configure the monitoring account data selection to view the Observability data from the organization ID.
- L. In the monitoring account, attach the CloudWatchLogsReadOnlyAccess AWS managed policy to an IAM role that can be assumed to search the logs.

Answer: BCF

Explanation:

? To aggregate logs from multiple accounts in an organization, the DevOps engineer needs to create a cross-account subscription1 that allows the monitoring account to receive log events from the sharing accounts.
? To enable cross-account subscription, the DevOps engineer needs to create an IAM role in each sharing account that grants permission to CloudWatch Logs to link the log groups to the destination in the monitoring account2. This can be done using a CloudFormation template and StackSets3 to deploy the role to all accounts in the organization.
? The DevOps engineer also needs to create an IAM role in the monitoring account that allows CloudWatch Logs to create a sink for receiving log events from other accounts4. The role must have a trust policy that specifies the organization ID as a condition.
? Finally, the DevOps engineer needs to attach the CloudWatchLogsReadOnlyAccess policy5 to an IAM role in the monitoring account that can be used to search the logs from the cross-account subscription.
References: 1: Cross-account log data sharing with subscriptions 2: Create an IAM role for CloudWatch Logs in each sharing account 3: AWS CloudFormation StackSets 4: Create an IAM role for CloudWatch Logs in your monitoring account 5: CloudWatchLogsReadOnlyAccess policy

NEW QUESTION 23

A company has an application and a CI/CD pipeline. The CI/CD pipeline consists of an AWS CodePipeline pipeline and an AWS CodeBuild project. The CodeBuild project runs tests against the application as part of the build process and outputs a test report. The company must keep the test reports for 90 days. Which solution will meet these requirements?

- A. Add a new stage in the CodePipeline pipeline after the stage that contains the CodeBuild project
- B. Create an Amazon S3 bucket to store the report
- C. Configure an S3 deploy action type in the new CodePipeline stage with the appropriate path and format for the reports.
- D. Add a report group in the CodeBuild project buildspec file with the appropriate path and format for the report
- E. Create an Amazon S3 bucket to store the report
- F. Configure an Amazon EventBridge rule that invokes an AWS Lambda function to copy the reports to the S3 bucket when a build is complete
- G. Create an S3 Lifecycle rule to expire the objects after 90 days.
- H. Add a new stage in the CodePipeline pipeline
- I. Configure a test action type with the appropriate path and format for the report
- J. Configure the report expiration time to be 90 days in the CodeBuild project buildspec file.
- K. Add a report group in the CodeBuild project buildspec file with the appropriate path and format for the report
- L. Create an Amazon S3 bucket to store the report
- M. Configure the report group as an artifact in the CodeBuild project buildspec file
- N. Configure the S3 bucket as the artifact destination
- O. Set the object expiration to 90 days.

Answer: B

Explanation:

The correct solution is to add a report group in the AWS CodeBuild project buildspec file with the appropriate path and format for the reports. Then, create an Amazon S3 bucket to store the reports. You should configure an Amazon EventBridge rule that invokes an AWS Lambda function to copy the reports to the S3 bucket when a build is completed. Finally, create an S3 Lifecycle rule to expire the objects after 90 days. This approach allows for the automated transfer of reports to long-term storage and ensures they are retained for the required duration without manual intervention1. References:
? AWS CodeBuild User Guide on test reporting1.
? AWS CodeBuild User Guide on working with report groups2.
? AWS Documentation on using AWS CodePipeline with AWS CodeBuild3.

NEW QUESTION 25

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
- B. Update the IAM role of the EC2 instances to allow access to CodeDeploy.
- C. Create a new version of the common AMI with the CodeDeploy agent installed
- D. Create an AppSpec file that contains application deployment scripts and grants access to CodeDeploy.
- E. Create an application in CodeDeploy
- F. Configure an in-place deployment type
- G. Specify the Auto Scaling group as the deployment target
- H. Add a step to the CodePipeline pipeline to use EC2 Image Builder to create a new AMI
- I. Configure CodeDeploy to deploy the newly created AMI.
- J. Create an application in CodeDeploy
- K. Configure an in-place deployment type
- L. Specify the Auto Scaling group as the deployment target
- M. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.
- N. Create an application in CodeDeploy

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

Answer: AD

Explanation:

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

NEW QUESTION 29

A company recently launched multiple applications that use Application Load Balancers. Application response time often slows down when the applications experience problems. A DevOps engineer needs to implement a monitoring solution that alerts the company when the applications begin to perform slowly. The DevOps engineer creates an Amazon Simple Notification Service (Amazon SNS) topic and subscribes the company's email address to the topic. What should the DevOps engineer do next to meet the requirements?

- A. Create an Amazon EventBridge rule that invokes an AWS Lambda function to query the applications on a 5-minute interval. Configure the Lambda function to publish a notification to the SNS topic when the applications return errors.
- B. Create an Amazon CloudWatch Synthetic canary that runs a custom script to query the applications on a 5-minute interval.
- C. Configure the canary to use the SNS topic when the applications return errors.
- D. Create an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric. Configure the CloudWatch alarm to send a notification when the number of connections becomes greater than the configured number of threads that the application supports. Configure the CloudWatch alarm to use the SNS topic.
- E. Create an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric. Configure the CloudWatch alarm to send a notification when the average response time becomes greater than the longest response time that the application supports. Configure the CloudWatch alarm to use the SNS topic.

Answer: B

Explanation:

? Option A is incorrect because creating an Amazon EventBridge rule that invokes an AWS Lambda function to query the applications on a 5-minute interval is not a valid solution. EventBridge rules can only trigger Lambda functions based on events, not on time intervals. Moreover, querying the applications on a 5-minute interval might incur unnecessary costs and network overhead, and might not detect performance issues in real time.

? Option B is correct because creating an Amazon CloudWatch Synthetic canary that runs a custom script to query the applications on a 5-minute interval is a valid solution. CloudWatch Synthetic canaries are configurable scripts that monitor endpoints and APIs by simulating customer behavior. Canaries can run as often as once per minute, and can measure the latency and availability of the applications. Canaries can also send notifications to an Amazon SNS topic when they detect errors or performance issues¹.

? Option C is incorrect because creating an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric is not a valid solution. The RequestCountPerTarget metric measures the number of requests completed or connections made per target in a target group². This metric does not reflect the application response time, which is the requirement. Moreover, configuring the CloudWatch alarm to send a notification when the number of connections becomes greater than the configured number of threads that the application supports is not a valid way to measure the application performance, as it depends on the application design and implementation.

? Option D is incorrect because creating an Amazon CloudWatch alarm that uses the AWS/ApplicationELB namespace RequestCountPerTarget metric is not a valid solution, for the same reason as option C. The RequestCountPerTarget metric does not reflect the application response time, which is the requirement. Moreover, configuring the CloudWatch alarm to send a notification when the average response time becomes greater than the longest response time that the application supports is not a valid way to measure the application performance, as it does not account for variability or outliers in the response time distribution.

References:

? 1: Using synthetic monitoring

? 2: Application Load Balancer metrics

NEW QUESTION 33

A company has an organization in AWS Organizations. The organization includes workload accounts that contain enterprise applications. The company centrally manages users from an operations account. No users can be created in the workload accounts. The company recently added an operations team and must provide the operations team members with administrator access to each workload account.

Which combination of actions will provide this access? (Choose three.)

- A. Create a SysAdmin role in the operations account
- B. Attach the AdministratorAccess policy to the role
- C. Modify the trust relationship to allow the sts:AssumeRole action from the workload accounts.
- D. Create a SysAdmin role in each workload account
- E. Attach the AdministratorAccess policy to the role
- F. Modify the trust relationship to allow the sts:AssumeRole action from the operations account.
- G. Create an Amazon Cognito identity pool in the operations account
- H. Attach the SysAdmin role as an authenticated role.
- I. In the operations account, create an IAM user for each operations team member.
- J. In the operations account, create an IAM user group that is named SysAdmin
- K. Add an IAM policy that allows the sts:AssumeRole action for the SysAdmin role in each workload account
- L. Add all operations team members to the group.
- M. Create an Amazon Cognito user pool in the operations account
- N. Create an Amazon Cognito user for each operations team member.

Answer: BDE

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account_with_roles.html

NEW QUESTION 38

A healthcare services company is concerned about the growing costs of software licensing for an application for monitoring patient wellness. The company wants to create an audit process to ensure that the application is running exclusively on Amazon EC2 Dedicated Hosts. A DevOps engineer must create a workflow to audit the application to ensure compliance.

What steps should the engineer take to meet this requirement with the LEAST administrative overhead?

- A. Use AWS Systems Manager Configuration Compliance
- B. Use calls to the put-compliance-items API action to scan and build a database of noncompliant EC2 instances based on their host placement configuration
- C. Use an Amazon DynamoDB table to store these instance IDs for fast access
- D. Generate a report through Systems Manager by calling the list-compliance-summaries API action.
- E. Use custom Java code running on an EC2 instance
- F. Set up EC2 Auto Scaling for the instance depending on the number of instances to be checked
- G. Send the list of noncompliant EC2 instance IDs to an Amazon SQS queue
- H. Set up another worker instance to process instance IDs from the SQS queue and write them to Amazon DynamoDB
- I. Use an AWS Lambda function to terminate noncompliant instance IDs obtained from the queue, and send them to an Amazon SNS email topic for distribution.
- J. Use AWS Config
- K. Identify all EC2 instances to be audited by enabling Config Recording on all Amazon EC2 resources for the region
- L. Create a custom AWS Config rule that triggers an AWS Lambda function by using the "config-rule-change-triggered" blueprint. Modify the Lambda evaluateCompliance () function to verify host placement to return a NON_COMPLIANT result if the instance is not running on an EC2 Dedicated Host
- M. Use the AWS Config report to address noncompliant instances.
- N. Use AWS CloudTrail
- O. Identify all EC2 instances to be audited by analyzing all calls to the EC2 RunCommand API action
- P. Invoke a AWS Lambda function that analyzes the host placement of the instance
- Q. Store the EC2 instance ID of noncompliant resources in an Amazon RDS for MySQL DB instance
- R. Generate a report by querying the RDS instance and exporting the query results to a CSV text file.

Answer: C

Explanation:

The correct answer is C. Using AWS Config to identify and audit all EC2 instances based on their host placement configuration is the most efficient and scalable solution to ensure compliance with the software licensing requirement. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. By creating a custom AWS Config rule that triggers a Lambda function to verify host placement, the DevOps engineer can automate the process of checking whether the instances are running on EC2 Dedicated Hosts or not. The Lambda function can return a NON_COMPLIANT result if the instance is not running on an EC2 Dedicated Host, and the AWS Config report can provide a summary of the compliance status of the instances. This solution requires the least administrative overhead compared to the other options.

Option A is incorrect because using AWS Systems Manager Configuration Compliance to scan and build a database of noncompliant EC2 instances based on their host placement configuration is a more complex and costly solution than using AWS Config. AWS Systems Manager Configuration Compliance is a feature of AWS Systems Manager that enables you to scan your managed instances for patch compliance and configuration inconsistencies. To use this feature, the DevOps engineer would need to install the Systems Manager Agent on each EC2 instance, create a State Manager association to run the put-compliance-items API action periodically, and use a DynamoDB table to store the instance IDs of noncompliant resources. This solution would also require more API calls and storage costs than using AWS Config.

Option B is incorrect because using custom Java code running on an EC2 instance to check and terminate noncompliant EC2 instances is a more cumbersome and error-prone solution than using AWS Config. This solution would require the DevOps engineer to write and maintain the Java code, set up EC2 Auto Scaling for the instance, use an SQS queue and another worker instance to process the instance IDs, use a Lambda function and an SNS topic to terminate and notify the noncompliant instances, and handle any potential failures or exceptions in the workflow. This solution would also incur more compute, storage, and messaging costs than using AWS Config.

Option D is incorrect because using AWS CloudTrail to identify and audit EC2 instances by analyzing the EC2 RunCommand API action is a less reliable and accurate solution than using AWS Config. AWS CloudTrail is a service that enables you to monitor and log the API activity in your AWS account. The EC2 RunCommand API action is used to execute commands on one or more EC2 instances. However, this API action does not necessarily indicate the host placement of the instance, and it may not capture all the instances that are running on EC2 Dedicated Hosts or not. Therefore, option D would not provide a comprehensive and consistent audit of the EC2 instances.

NEW QUESTION 41

A company runs a workload on Amazon EC2 instances. The company needs a control that requires the use of Instance Metadata Service Version 2 (IMDSv2) on all EC2 instances in the AWS account. If an EC2 instance does not prevent the use of Instance Metadata Service Version 1 (IMDSv1), the EC2 instance must be terminated.

Which solution will meet these requirements?

- A. Set up AWS Config in the account
- B. Use a managed rule to check EC2 instance
- C. Configure the rule to remediate the findings by using AWS Systems Manager Automation to terminate the instance.
- D. Create a permissions boundary that prevents the ec2:RunInstance action if the ec2:MetadataHttpTokens condition key is not set to a value of required
- E. Attach the permissions boundary to the IAM role that was used to launch the instance.
- F. Set up Amazon Inspector in the account
- G. Configure Amazon Inspector to activate deep inspection for EC2 instance
- H. Create an Amazon EventBridge rule for an Inspector2 finding
- I. Set an AWS Lambda function as the target to terminate the instance.
- J. Create an Amazon EventBridge rule for the EC2 instance launch successful event
- K. Send the event to an AWS Lambda function to inspect the EC2 metadata and to terminate the instance.

Answer: B

Explanation:

To implement a control that requires the use of IMDSv2 on all EC2 instances in the account, the DevOps engineer can use a permissions boundary. A permissions boundary is a policy that defines the maximum permissions that an IAM entity can have. The DevOps engineer can create a permissions boundary that prevents the ec2:RunInstance action if the ec2:MetadataHttpTokens condition key is not set to a value of required. This condition key enforces the use of IMDSv2 on EC2 instances. The DevOps engineer can attach the permissions boundary to the IAM role that was used to launch the instance. This way, any attempt to launch an EC2 instance without using IMDSv2 will be denied by the permissions boundary.

NEW QUESTION 45

A company has enabled all features for its organization in AWS Organizations. The organization contains 10 AWS accounts. The company has turned on AWS CloudTrail in all the accounts. The company expects the number of AWS accounts in the organization to increase to 500 during the next year. The company plans to use multiple OUs for these accounts.

The company has enabled AWS Config in each existing AWS account in the organization.

A DevOps engineer must implement a solution that enables AWS Config automatically for all future AWS accounts that are created in the organization.

Which solution will meet this requirement?

- A. In the organization's management account, create an Amazon EventBridge rule that reacts to a CreateAccount API call
- B. Configure the rule to invoke an AWS Lambda function that enables trusted access to AWS Config for the organization.
- C. In the organization's management account, create an AWS CloudFormation stack set to enable AWS Config
- D. Configure the stack set to deploy automatically when an account is created through Organizations.
- E. In the organization's management account, create an SCP that allows the appropriate AWS Config API calls to enable AWS Config
- F. Apply the SCP to the root-level OU.
- G. In the organization's management account, create an Amazon EventBridge rule that reacts to a CreateAccount API call
- H. Configure the rule to invoke an AWS Systems Manager Automation runbook to enable AWS Config for the account.

Answer: B

Explanation:

<https://aws.amazon.com/about-aws/whats-new/2020/02/aws-cloudformation-stacksets-introduces-automatic-deployments-across-accounts-and-regions-through-aws-organizations/>

NEW QUESTION 49

A DevOps engineer at a company is supporting an AWS environment in which all users use AWS IAM Identity Center (AWS Single Sign-On). The company wants to immediately disable credentials of any new IAM user and wants the security team to receive a notification. Which combination of steps should the DevOps engineer take to meet these requirements? (Choose three.)

- A. Create an Amazon EventBridge rule that reacts to an IAM CreateUser API call in AWS CloudTrail.
- B. Create an Amazon EventBridge rule that reacts to an IAM GetLoginProfile API call in AWS CloudTrail.
- C. Create an AWS Lambda function that is a target of the EventBridge rule
- D. Configure the Lambda function to disable any access keys and delete the login profiles that are associated with the IAM user.
- E. Create an AWS Lambda function that is a target of the EventBridge rule
- F. Configure the Lambda function to delete the login profiles that are associated with the IAM user.
- G. Create an Amazon Simple Notification Service (Amazon SNS) topic that is a target of the EventBridge rule
- H. Subscribe the security team's group email address to the topic.
- I. Create an Amazon Simple Queue Service (Amazon SQS) queue that is a target of the Lambda function
- J. Subscribe the security team's group email address to the queue.

Answer: ACE

NEW QUESTION 51

A DevOps engineer has developed an AWS Lambda function. The Lambda function starts an AWS CloudFormation drift detection operation on all supported resources for a specific CloudFormation stack. The Lambda function then exits its invocation. The DevOps engineer has created an Amazon EventBridge scheduled rule that invokes the Lambda function every hour. An Amazon Simple Notification Service (Amazon SNS) topic already exists in the AWS account. The DevOps engineer has subscribed to the SNS topic to receive notifications. The DevOps engineer needs to receive a notification as soon as possible when drift is detected in this specific stack configuration. Which solution will meet these requirements?

- A. Configure the existing EventBridge rule to also target the SNS topic. Configure an SNS subscription filter policy to match the CloudFormation stack
- B. Attach the subscription filter policy to the SNS topic
- C. Create a second Lambda function to query the CloudFormation API for the drift detection results for the stack. Configure the second Lambda function to publish a message to the SNS topic. If drift is detected, adjust the existing EventBridge rule to also target the second Lambda function
- D. Configure Amazon GuardDuty in the account with drift detection for all CloudFormation stacks
- E. Create a second EventBridge rule that reacts to the GuardDuty drift detection event finding for the specific CloudFormation stack
- F. Configure the SNS topic as a target of the second EventBridge rule.
- G. Configure AWS Config in the account
- H. Use the cloudformation-stack-drift-detection-check-managed-rule
- I. Create a second EventBridge rule that reacts to a compliance change event for the CloudFormation stack
- J. Configure the SNS topic as a target of the second EventBridge rule.

Answer: D

Explanation:

A comprehensive and detailed explanation is:

? Option A is incorrect because EventBridge rules cannot filter events based on the message body or attributes of the target service. Therefore, configuring an SNS subscription filter policy to match the CloudFormation stack will not work. The SNS topic will receive all events from the EventBridge rule, regardless of the stack name or drift status.

? Option B is incorrect because it introduces unnecessary complexity and cost.

Creating a second Lambda function to query the CloudFormation API for the drift detection results is redundant, since CloudFormation already publishes drift detection events to EventBridge. Moreover, invoking two Lambda functions every hour will incur more charges than invoking one.

? Option C is incorrect because GuardDuty does not provide drift detection for CloudFormation stacks. GuardDuty is a threat detection service that monitors for malicious activity and unauthorized behavior in AWS accounts and workloads. It does not monitor or report on configuration changes or drifts in CloudFormation stacks.

? Option D is correct because it leverages AWS Config and its managed rule for drift detection. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. It can detect configuration changes and drifts in CloudFormation stacks using the cloudformation-stack-drift-detection-check-managed-rule. This rule triggers an AWS Config event when a stack drifts from its expected template configuration. By creating a second EventBridge rule that reacts to this event for the specific stack, the DevOps engineer can configure the SNS topic as a target and receive a notification as soon as possible when drift is detected.

References:

? AWS Config

? Amazon SNS subscription filter policies

? Amazon EventBridge rules

NEW QUESTION 53

A company is launching an application. The application must use only approved AWS services. The account that runs the application was created less than 1 year ago and is assigned to an AWS Organizations OU. The company needs to create a new Organizations account structure. The account structure must have an appropriate SCP that supports the use of only services

that are currently active in the AWS account.
The company will use AWS Identity and Access Management (IAM) Access Analyzer in the solution.
Which solution will meet these requirements?

- A. Create an SCP that allows the services that IAM Access Analyzer identifies
- B. Create an OU for the account
- C. Move the account into the new O
- D. Attach the new SCP to the new O
- E. Detach the default FullAWSAccess SCP from the new OU.
- F. Create an SCP that denies the services that IAM Access Analyzer identifies
- G. Create an OU for the account
- H. Move the account into the new OI
- I. Attach the new SCP to the new OU.
- J. Create an SCP that allows the services that IAM Access Analyzer identifies
- K. Attach the new SCP to the organization's root.
- L. Create an SCP that allows the services that IAM Access Analyzer identifies
- M. Create an OU for the account
- N. Move the account into the new O
- O. Attach the new SCP to the management account
- P. Detach the default FullAWSAccess SCP from the new OU.

Answer: A

Explanation:

To meet the requirements of creating a new Organizations account structure with an appropriate SCP that supports the use of only services that are currently active in the AWS account, the company should use the following solution:

? Create an SCP that allows the services that IAM Access Analyzer identifies. IAM Access Analyzer is a service that helps identify potential resource-access risks by analyzing resource-based policies in the AWS environment. IAM Access Analyzer can also generate IAM policies based on access activity in the AWS CloudTrail logs. By using IAM Access Analyzer, the company can create an SCP that grants only the permissions that are required for the application to run, and denies all other services. This way, the company can enforce the use of only approved AWS services and reduce the risk of unauthorized access¹²

? Create an OU for the account. Move the account into the new OU. An OU is a container for accounts within an organization that enables you to group accounts that have similar business or security requirements. By creating an OU for the account, the company can apply policies and manage settings for the account as a group. The company should move the account into the new OU to make it subject to the policies attached to the OU³

? Attach the new SCP to the new OU. Detach the default FullAWSAccess SCP from the new OU. An SCP is a type of policy that specifies the maximum permissions for an organization or organizational unit (OU). By attaching the new SCP to the new OU, the company can restrict the services that are available to all accounts in that OU, including the account that runs the application. The company should also detach the default FullAWSAccess SCP from the new OU, because this policy allows all actions on all AWS services and might override or conflict with the new SCP⁴⁵

The other options are not correct because they do not meet the requirements or follow best practices. Creating an SCP that denies the services that IAM Access Analyzer identifies is not a good option because it might not cover all possible services that are not approved or required for the application. A deny policy is also more difficult to maintain and update than an allow policy. Creating an SCP that allows the services that IAM Access Analyzer identifies and attaching it to the organization's root is not a good option because it might affect other accounts and OUs in the organization that have different service requirements or approvals. Creating an SCP that allows the services that IAM Access Analyzer identifies and attaching it to the management account is not a valid option because SCPs cannot be attached directly to accounts, only to OUs or roots.

References:

- ? 1: Using AWS Identity and Access Management Access Analyzer - AWS Identity and Access Management
- ? 2: Generate a policy based on access activity - AWS Identity and Access Management
- ? 3: Organizing your accounts into OUs - AWS Organizations
- ? 4: Service control policies - AWS Organizations
- ? 5: How SCPs work - AWS Organizations

NEW QUESTION 57

A company uses an Amazon API Gateway regional REST API to host its application API. The REST API has a custom domain. The REST API's default endpoint is deactivated.

The company's internal teams consume the API. The company wants to use mutual TLS between the API and the internal teams as an additional layer of authentication.

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

- A. Use AWS Certificate Manager (ACM) to create a private certificate authority (CA). Provision a client certificate that is signed by the private CA.
- B. Provision a client certificate that is signed by a public certificate authority (CA). Import the certificate into AWS Certificate Manager (ACM).
- C. Upload the provisioned client certificate to an Amazon S3 bucket
- D. Configure the API Gateway mutual TLS to use the client certificate that is stored in the S3 bucket as the trust store.
- E. Upload the provisioned client certificate private key to an Amazon S3 bucket
- F. Configure the API Gateway mutual TLS to use the private key that is stored in the S3 bucket as the trust store.
- G. Upload the root private certificate authority (CA) certificate to an Amazon S3 bucket
- H. Configure the API Gateway mutual TLS to use the private CA certificate that is stored in the S3 bucket as the trust store.

Answer: AE

Explanation:

Mutual TLS (mTLS) authentication requires two-way authentication between the client and the server. For Amazon API Gateway, you can enable mTLS for a custom domain name, which requires clients to present X.509 certificates to verify their identity to access your API. To set up mTLS, you would typically use AWS Certificate Manager (ACM) to create a private certificate authority (CA) and provision a client certificate signed by this private CA. The root CA certificate is then uploaded to an Amazon S3 bucket and configured in API Gateway as the trust store¹².

References:

- ? Introducing mutual TLS authentication for Amazon API Gateway¹.
- ? Configuring mutual TLS authentication for a REST API².
- ? AWS Private Certificate Authority details³.
- ? AWS Certificate Manager Private Certificate Authority updates⁴.

NEW QUESTION 59

A company sells products through an ecommerce web application. The company wants a dashboard that shows a pie chart of product transaction details. The

company wants to integrate the dashboard With the company's existing Amazon CloudWatch dashboards
Which solution Will meet these requirements With the MOST operational efficiency?

- A. Update the ecommerce application to emit a JSON object to a CloudWatch log group for each processed transactio
- B. Use CloudWatch Logs Insights to query the log group and to visualize the results in a pie chart format Attach the results to the desired CloudWatch dashboard.
- C. Update the ecommerce application to emit a JSON object to an Amazon S3 bucket for each processed transactio
- D. Use Amazon Athena to query the S3 bucket and to visualize the results In a Pie chart forma
- E. Export the results from Athena Attach the results to the desired CloudWatch dashboard
- F. Update the ecommerce application to use AWS X-Ray for instrumentatio
- G. Create a new X-Ray subsegment Add an annotation for each processed transactio
- H. Use X-Ray traces to query the data and to visualize the results in a pie chart format Attach the results to the desired CloudWatch dashboard
- I. Update the ecommerce application to emit a JSON object to a CloudWatch log group for each processed transaction_ Create an AWS Lambda function to aggregate and write the results to Amazon DynamoD
- J. Create a Lambda subscription filter for the log fil
- K. Attach the results to the desired CloudWatch dashboard.

Answer: A

Explanation:

The correct answer is A.

A comprehensive and detailed explanation is:

? Option A is correct because it meets the requirements with the most operational efficiency. Updating the ecommerce application to emit a JSON object to a CloudWatch log group for each processed transaction is a simple and cost- effective way to collect the data needed for the dashboard. Using CloudWatch Logs Insights to query the log group and to visualize the results in a pie chart format is also a convenient and integrated solution that leverages the existing CloudWatch dashboards. Attaching the results to the desired CloudWatch dashboard is straightforward and does not require any additional steps or services.

? Option B is incorrect because it introduces unnecessary complexity and cost.

Updating the ecommerce application to emit a JSON object to an Amazon S3 bucket for each processed transaction is a valid way to store the data, but it requires creating and managing an S3 bucket and its permissions. Using Amazon Athena to query the S3 bucket and to visualize the results in a pie chart format is also a valid way to analyze the data, but it incurs charges based on the amount of data scanned by each query. Exporting the results from Athena and attaching them to the desired CloudWatch dashboard is also an extra step that adds more overhead and latency.

? Option C is incorrect because it uses AWS X-Ray for an inappropriate purpose.

Updating the ecommerce application to use AWS X-Ray for instrumentation is a good practice for monitoring and tracing distributed applications, but it is not designed for aggregating product transaction details. Creating a new X-Ray subsegment and adding an annotation for each processed transaction is possible, but it would clutter the X-Ray service map and make it harder to debug performance issues. Using X-Ray traces to query the data and to visualize the results in a pie chart format is also possible, but it would require custom code and logic that are not supported by X-Ray natively. Attaching the results to the desired CloudWatch dashboard is also not supported by X-Ray directly, and would require additional steps or services.

? Option D is incorrect because it introduces unnecessary complexity and cost.

Updating the ecommerce application to emit a JSON object to a CloudWatch log group for each processed transaction is a simple and cost-effective way to collect the data needed for the dashboard, as in option A. However, creating an AWS Lambda function to aggregate and write the results to Amazon DynamoDB is redundant, as CloudWatch Logs Insights can already perform aggregation queries on log data. Creating a Lambda subscription filter for the log file is also redundant, as CloudWatch Logs Insights can already access log data directly. Attaching the results to the desired CloudWatch dashboard would also require additional steps or services, as DynamoDB does not support native integration with CloudWatch dashboards.

References:

- ? CloudWatch Logs Insights
- ? Amazon Athena
- ? AWS X-Ray
- ? AWS Lambda
- ? Amazon DynamoDB

NEW QUESTION 60

A company manages AWS accounts for application teams in AWS Control Tower. Individual application teams are responsible for securing their respective AWS accounts.

A DevOps engineer needs to enable Amazon GuardDuty for all AWS accounts in which the application teams have not already enabled GuardDuty. The DevOps engineer is using AWS CloudFormation StackSets from the AWS Control Tower management account.

How should the DevOps engineer configure the CloudFormation template to prevent failure during the StackSets deployment?

- A. Create a CloudFormation custom resource that invokes an AWS Lambda functio
- B. Configure the Lambda function to conditionally enable GuardDuty if GuardDuty is not already enabled in the accounts.
- C. Use the Conditions section of the CloudFormation template to enable GuardDuty in accounts where GuardDuty is not already enabled.
- D. Use the CloudFormation F
- E. GetAtt intrinsic function to check whether GuardDuty is already enabled If GuardDuty is not already enabled use the Resources section of the CloudFormation template to enable GuardDuty.
- F. Manually discover the list of AWS account IDs where GuardDuty is not enabled Use the CloudFormation Fn: ImportValue intrinsic function to import the list of account IDs into the CloudFormation template to skip deployment for the listed AWS accounts.

Answer: A

Explanation:

This solution will meet the requirements because it will use a CloudFormation custom resource to execute custom logic during the stack set operation. A custom resource is a resource that you define in your template and that is associated with an AWS Lambda function. The Lambda function runs whenever the custom resource is created, updated, or deleted, and can perform any actions that are supported by the AWS SDK. In this case, the Lambda function can use the GuardDuty API to check whether GuardDuty is already enabled in each target account, and if not, enable it. This way, the DevOps engineer can avoid deploying the stack set to accounts that already have GuardDuty enabled, and prevent failure during the deployment.

NEW QUESTION 63

A DevOps engineer is creating an AWS CloudFormation template to deploy a web service. The web service will run on Amazon EC2 instances in a private subnet behind an Application Load Balancer (ALB). The DevOps engineer must ensure that the service can accept requests from clients that have IPv6 addresses. What should the DevOps engineer do with the CloudFormation template so that IPv6 clients can access the web service?

- A. Add an IPv6 CIDR block to the VPC and the private subnet for the EC2 instance

- B. Create route table entries for the IPv6 network, use EC2 instance types that support IPv6, and assign IPv6 addresses to each EC2 instance.
- C. Assign each EC2 instance an IPv6 Elastic IP address
- D. Create a target group, and add the EC2 instances as target
- E. Create a listener on port 443 of the ALB, and associate the target group with the ALB.
- F. Replace the ALB with a Network Load Balancer (NLB). Add an IPv6 CIDR block to the VPC and subnets for the NLB, and assign the NLB an IPv6 Elastic IP address.
- G. Add an IPv6 CIDR block to the VPC and subnets for the AL
- H. Create a listener on port 443. and specify the dualstack IP address type on the AL
- I. Create a target group, and add the EC2 instances as target
- J. Associate the target group with the ALB.

Answer: D

Explanation:

it involves adding an IPv6 CIDR block to the VPC and subnets for the ALB and specifying the dualstack IP address type on the ALB listener. This allows the ALB to listen on both IPv4 and IPv6 addresses, and forward requests to the EC2 instances that are added as targets to the target group associated with the ALB.

NEW QUESTION 65

A company deploys its corporate infrastructure on AWS across multiple AWS Regions and Availability Zones. The infrastructure is deployed on Amazon EC2 instances and connects with AWS IoT Greengrass devices. The company deploys additional resources on on-premises servers that are located in the corporate headquarters.

The company wants to reduce the overhead involved in maintaining and updating its resources. The company's DevOps team plans to use AWS Systems Manager to implement automated management and application of patches. The DevOps team confirms that Systems Manager is available in the Regions that the resources are deployed in Systems Manager also is available in a Region near the corporate headquarters.

Which combination of steps must the DevOps team take to implement automated patch and configuration management across the company's EC2 instances IoT devices and on-premises infrastructure? (Select THREE.)

- A. Apply tags to all the EC2 instances
- B. AWS IoT Greengrass devices, and on-premises server
- C. Use Systems Manager Session Manager to push patches to all the tagged devices.
- D. Use Systems Manager Run Command to schedule patching for the EC2 instances AWS IoT Greengrass devices and on-premises servers.
- E. Use Systems Manager Patch Manager to schedule patching IoT the EC2 instances AWS IoT Greengrass devices and on-premises servers as a Systems Manager maintenance window task.
- F. Configure Amazon EventBridge to monitor Systems Manager Patch Manager for updates to patch baseline
- G. Associate Systems Manager Run Command with the event to initiate a patch action for all EC2 instances AWS IoT Greengrass devices and on-premises servers.
- H. Create an IAM instance profile for Systems Manager Attach the instance profile to all the EC2 instances in the AWS account
- I. For the AWS IoT Greengrass devices and on-premises servers create an IAM service role for Systems Manager.
- J. Generate a managed-instance activation Use the Activation Code and Activation ID to install Systems Manager Agent (SSM Agent) on each server in the on-premises environment Update the AWS IoT Greengrass IAM token exchange role Use the role to deploy SSM Agent on all the IoT devices.

Answer: CEF

Explanation:

https://aws.amazon.com/blogs/mt/how-to-centrally-manage-aws-iot-greengrass-devices-using-aws-systems-manager/?force_isolation=true

NEW QUESTION 68

A video-sharing company stores its videos in Amazon S3. The company has observed a sudden increase in video access requests, but the company does not know which videos are most popular. The company needs to identify the general access pattern for the video files. This pattern includes the number of users who access a certain file on a given day, as well as the number of users who access a certain file on a given day, as well as the number of users who access a certain file on a given day. A DevOps engineer manages a large commercial website that runs on Amazon EC2. The website uses Amazon Kinesis Data Streams to collect and process web logs. The DevOps engineer manages the Kinesis consumer application, which also runs on Amazon EC2. Sudden increases of data cause the Kinesis consumer application to fall behind and the Kinesis data streams drop records before the records can be processed. The DevOps engineer must implement a solution to improve stream handling.

Which solution meets these requirements with the MOST operational efficiency?" er of pull requests for certain files.

How can the company meet these requirements with the LEAST amount of effort?

- A. Activate S3 server access logging
- B. Import the access logs into an Amazon Aurora database
- C. Use an Aurora SQL query to analyze the access patterns.
- D. Activate S3 server access logging
- E. Use Amazon Athena to create an external table with the log file
- F. Use Athena to create a SQL query to analyze the access patterns.
- G. Invoke an AWS Lambda function for every S3 object access event
- H. Configure the Lambda function to write the file access information, such as user, S3 bucket, and file key, to an Amazon Aurora database
- I. S3 bucket, and file key, to an Amazon Aurora database
- J. Use an Aurora SQL query to analyze the access patterns.
- K. Record an Amazon CloudWatch Logs log message for every S3 object access event
- L. Configure a CloudWatch Logs log stream to write the file access information, such as user, S3 bucket, and file key, to an Amazon Kinesis Data Analytics for SQL application
- M. Perform a sliding window analysis.

Answer: B

Explanation:

Activating S3 server access logging and using Amazon Athena to create an external table with the log files is the easiest and most cost-effective way to analyze access patterns. This option requires minimal setup and allows for quick analysis of the access patterns with SQL queries. Additionally, Amazon Athena scales automatically to match the query load, so there is no need for additional infrastructure provisioning or management.

NEW QUESTION 70

A DevOps engineer needs to back up sensitive Amazon S3 objects that are stored within an S3 bucket with a private bucket policy using S3 cross-Region replication functionality. The objects need to be copied to a target bucket in a different AWS Region and account. Which combination of actions should be performed to enable this replication? (Choose three.)

- A. Create a replication IAM role in the source account
- B. Create a replication IAM role in the target account.
- C. Add statements to the source bucket policy allowing the replication IAM role to replicate objects.
- D. Add statements to the target bucket policy allowing the replication IAM role to replicate objects.
- E. Create a replication rule in the source bucket to enable the replication.
- F. Create a replication rule in the target bucket to enable the replication.

Answer: ADE

Explanation:

S3 cross-Region replication (CRR) automatically replicates data between buckets across different AWS Regions. To enable CRR, you need to add a replication configuration to your source bucket that specifies the destination bucket, the IAM role, and the encryption type (optional). You also need to grant permissions to the IAM role to perform replication actions on both the source and destination buckets. Additionally, you can choose the destination storage class and enable additional replication options such as S3 Replication Time Control (S3 RTC) or S3 Batch Replication. <https://medium.com/cloud-techies/s3-same-region-replication-srr-and-cross-region-replication-crr-34d446806bab> <https://aws.amazon.com/getting-started/hands-on/replicate-data-using-amazon-s3-replication/> <https://docs.aws.amazon.com/AmazonS3/latest/userguide/replication.html>

NEW QUESTION 73

A DevOps team manages an API running on-premises that serves as a backend for an Amazon API Gateway endpoint. Customers have been complaining about high response latencies, which the development team has verified using the API Gateway latency metrics in Amazon CloudWatch. To identify the cause, the team needs to collect relevant data without introducing additional latency. Which actions should be taken to accomplish this? (Choose two.)

- A. Install the CloudWatch agent server side and configure the agent to upload relevant logs to CloudWatch.
- B. Enable AWS X-Ray tracing in API Gateway, modify the application to capture request segments, and upload those segments to X-Ray during each request.
- C. Enable AWS X-Ray tracing in API Gateway, modify the application to capture request segments, and use the X-Ray daemon to upload segments to X-Ray.
- D. Modify the on-premises application to send log information back to API Gateway with each request.
- E. Modify the on-premises application to calculate and upload statistical data relevant to the API service requests to CloudWatch metrics.

Answer: AC

Explanation:

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/install-CloudWatch-Agent-on-premise.html>
<https://docs.aws.amazon.com/xray/latest/devguide/xray-api-sendingdata.html>

NEW QUESTION 78

An Amazon EC2 instance is running in a VPC and needs to download an object from a restricted Amazon S3 bucket. When the DevOps engineer tries to download the object, an AccessDenied error is received. What are the possible causes for this error? (Select TWO,)

- A. The S3 bucket default encryption is enabled.
- B. There is an error in the S3 bucket policy.
- C. The object has been moved to S3 Glacier.
- D. There is an error in the IAM role configuration.
- E. S3 Versioning is enabled.

Answer: BD

Explanation:

These are the possible causes for the AccessDenied error because they affect the permissions to access the S3 object from the EC2 instance. An S3 bucket policy is a resource-based policy that defines who can access the bucket and its objects, and what actions they can perform. An IAM role is an identity that can be assumed by an EC2 instance to grant it permissions to access AWS services and resources. If there is an error in the S3 bucket policy or the IAM role configuration, such as a missing or incorrect statement, condition, or principal, then the EC2 instance may not have the necessary permissions to download the object from the S3 bucket. <https://docs.aws.amazon.com/AmazonS3/latest/userguide/example-bucket-policies.html>
<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html>

NEW QUESTION 79

A company requires its internal business teams to launch resources through pre-approved AWS CloudFormation templates only. The security team requires automated monitoring when resources drift from their expected state. Which strategy should be used to meet these requirements?

- A. Allow users to deploy CloudFormation stacks using a CloudFormation service role only
- B. Use CloudFormation drift detection to detect when resources have drifted from their expected state.
- C. Allow users to deploy CloudFormation stacks using a CloudFormation service role only
- D. Use AWS Config rules to detect when resources have drifted from their expected state.
- E. Allow users to deploy CloudFormation stacks using AWS Service Catalog only
- F. Enforce the use of a launch constraint
- G. Use AWS Config rules to detect when resources have drifted from their expected state.
- H. Allow users to deploy CloudFormation stacks using AWS Service Catalog only
- I. Enforce the use of a template constraint
- J. Use Amazon EventBridge notifications to detect when resources have drifted from their expected state.

Answer: C

Explanation:

The correct answer is C. Allowing users to deploy CloudFormation stacks using AWS Service Catalog only and enforcing the use of a launch constraint is the best

way to ensure that the internal business teams launch resources through pre-approved CloudFormation templates only. AWS Service Catalog is a service that enables organizations to create and manage catalogs of IT services that are approved for use on AWS. A launch constraint is a rule that specifies the role that AWS Service Catalog assumes when launching a product.

By using a launch constraint, the DevOps engineer can control the permissions that the users have when launching a product. Using AWS Config rules to detect when resources have drifted from their expected state is the best way to automate the monitoring of the resources. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. AWS Config rules are custom or managed rules that AWS Config uses to evaluate whether your AWS resources comply with your desired configurations. By using AWS Config rules, the DevOps engineer can track the changes in the resources and identify any non-compliant resources.

Option A is incorrect because allowing users to deploy CloudFormation stacks using a CloudFormation service role only is not the best way to ensure that the internal business teams launch resources through pre-approved CloudFormation templates only. A CloudFormation service role is an IAM role that CloudFormation assumes to create, update, or delete the stack resources. By using a CloudFormation service role, the DevOps engineer can control the permissions that CloudFormation has when acting on the resources, but not the permissions that the users have when launching a stack. Therefore, option A does not prevent the users from launching resources that are not approved by the company. Using CloudFormation drift detection to detect when resources have drifted from their expected state is a valid way to monitor the resources, but it is not as automated and scalable as using AWS Config rules. CloudFormation drift detection is a feature that enables you to detect whether a stack's actual configuration differs, or has drifted, from its expected configuration. To use this feature, the DevOps engineer would need to manually initiate a drift detection operation on the stack or the stack resources, and then view the drift status and details in the CloudFormation console or API.

Option B is incorrect because allowing users to deploy CloudFormation stacks using a CloudFormation service role only is not the best way to ensure that the internal business teams launch resources through pre-approved CloudFormation templates only, as explained in option A. Using AWS Config rules to detect when resources have drifted from their expected state is a valid way to monitor the resources, as explained in option C. Option D is incorrect because enforcing the use of a template constraint is not the best way to ensure that the internal business teams launch resources through pre-approved CloudFormation templates only. A template constraint is a rule that defines the values or properties that users can specify when launching a product. By using a template constraint, the DevOps engineer can control the parameters that the users can provide when launching a product, but not the permissions that the users have when launching a product. Therefore, option D does not prevent the users from launching resources that are not approved by the company. Using Amazon EventBridge notifications to detect when resources have drifted from their expected state is a less reliable and consistent solution than using AWS Config rules. Amazon EventBridge is a service that enables you to connect your applications with data from a variety of sources. Amazon EventBridge can deliver a stream of real-time data from event sources, such as AWS services, and route

that data to targets, such as AWS Lambda functions. However, to use this solution, the DevOps engineer would need to configure the event source, the event bus, the event rule, and the event target for each resource type that needs to be monitored, which is more complex and error-prone than using AWS Config rules.

NEW QUESTION 84

A DevOps team is merging code revisions for an application that uses an Amazon RDS Multi-AZ DB cluster for its production database. The DevOps team uses continuous integration to periodically verify that the application works. The DevOps team needs to test the changes before the changes are deployed to the production database.

Which solution will meet these requirements?

- A. Use a buildspec file in AWS CodeBuild to restore the DB cluster from a snapshot of the production database run integration tests, and drop the restored database after verification.
- B. Deploy the application to production
- C. Configure an audit log of data control language (DCL) operations to capture database activities to perform if verification fails.
- D. Create a snapshot of the DB cluster before deploying the application Use the Update requires Replacement property on the DB instance in AWS CloudFormation to deploy the application and apply the changes.
- E. Ensure that the DB cluster is a Multi-AZ deployment
- F. Deploy the application with the update
- G. Fail over to the standby instance if verification fails.

Answer: A

Explanation:

This solution will meet the requirements because it will create a temporary copy of the production database using a snapshot, run the integration tests on the copy, and delete the copy after the tests are done. This way, the production database will not be affected by the code revisions, and the DevOps team can test the changes before deploying them to production. A buildspec file is a YAML file that contains the commands and settings that CodeBuild uses to run a build. The buildspec file can specify the steps to restore the DB cluster from a snapshot, run the integration tests, and drop the restored database.

NEW QUESTION 87

A company's DevOps engineer is creating an AWS Lambda function to process notifications from an Amazon Simple Notification Service (Amazon SNS) topic. The Lambda function will process the notification messages and will write the contents of the notification messages to an Amazon RDS Multi-AZ DB instance.

During testing a database administrator accidentally shut down the DB instance. While the database was down the company lost several of the SNS notification messages that were delivered during that time.

The DevOps engineer needs to prevent the loss of notification messages in the future Which solutions will meet this requirement? (Select TWO.)

- A. Replace the RDS Multi-AZ DB instance with an Amazon DynamoDB table.
- B. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination of the Lambda function.
- C. Configure an Amazon Simple Queue Service (Amazon SQS) dead-letter queue for the SNS topic.
- D. Subscribe an Amazon Simple Queue Service (Amazon SQS) queue to the SNS topic Configure the Lambda function to process messages from the SQS queue.
- E. Replace the SNS topic with an Amazon EventBridge event bus Configure an EventBridge rule on the new event bus to invoke the Lambda function for each event.

Answer: CD

Explanation:

These solutions will meet the requirement because they will prevent the loss of notification messages in the future. An Amazon SQS queue is a service that provides a reliable, scalable, and secure message queue for asynchronous communication between distributed components. You can use an SQS queue to buffer messages from an SNS topic and ensure that they are delivered and processed by a Lambda function, even if the function or the database is temporarily unavailable.

Option C will configure an SQS dead-letter queue for the SNS topic. A dead-letter queue is a queue that receives messages that could not be delivered to any subscriber after a specified number of retries. You can use a dead-letter queue to store and analyze failed messages, or to reprocess them later. This way, you can avoid losing messages that could not be delivered to the Lambda function due to network errors, throttling, or other issues. Option D will subscribe an SQS queue to the SNS topic and configure the Lambda function to process messages from the SQS queue. This will decouple the SNS topic from the Lambda function and provide more flexibility and control over the message delivery and processing. You can use an SQS queue to store messages from the SNS topic until they

are ready to be processed by the Lambda function, and also to retry processing in case of failures. This way, you can avoid losing messages that could not be processed by the Lambda function due to database errors, timeouts, or other issues.

NEW QUESTION 89

A company has many applications. Different teams in the company developed the applications by using multiple languages and frameworks. The applications run on premises and on different servers with different operating systems. Each team has its own release protocol and process. The company wants to reduce the complexity of the release and maintenance of these applications.

The company is migrating its technology stacks, including these applications, to AWS. The company wants centralized control of source code, a consistent and automatic delivery pipeline, and as few maintenance tasks as possible on the underlying infrastructure.

What should a DevOps engineer do to meet these requirements?

- A. Create one AWS CodeCommit repository for all application
- B. Put each application's code in a different branch
- C. Merge the branches, and use AWS CodeBuild to build the application
- D. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- E. Create one AWS CodeCommit repository for each of the application
- F. Use AWS CodeBuild to build the applications one at a time
- G. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- H. Create one AWS CodeCommit repository for each of the application
- I. Use AWS CodeBuild to build the applications one at a time and to create one AMI for each server
- J. Use AWS CloudFormation StackSets to automatically provision and decommission Amazon EC2 fleets by using these AMIs.
- K. Create one AWS CodeCommit repository for each of the application
- L. Use AWS CodeBuild to build one Docker image for each application in Amazon Elastic Container Registry (Amazon ECR). Use AWS CodeDeploy to deploy the applications to Amazon Elastic Container Service (Amazon ECS) on infrastructure that AWS Fargate manages.

Answer: D

Explanation:

because of "as few maintenance tasks as possible on the underlying infrastructure". Fargate does that better than "one centralized application server"

NEW QUESTION 91

A company needs to implement failover for its application. The application includes an Amazon CloudFront distribution and a public Application Load Balancer (ALB) in an AWS Region. The company has configured the ALB as the default origin for the distribution.

After some recent application outages, the company wants a zero-second RTO. The company deploys the application to a secondary Region in a warm standby configuration. A DevOps engineer needs to automate the failover of the application to the secondary Region so that HTTP GET requests meet the desired RTO. Which solution will meet these requirements?

- A. Create a second CloudFront distribution that has the secondary ALB as the default origin
- B. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both CloudFront distribution
- C. Update the application to use the new record set.
- D. Create a new origin on the distribution for the secondary ALB
- E. Create a new origin group
- F. Set the original ALB as the primary origin
- G. Configure the origin group to fail over for HTTP 5xx status code
- H. Update the default behavior to use the origin group.
- I. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both ALB
- J. Set the TTL of both records to
- K. Update the distribution's origin to use the new record set.
- L. Create a CloudFront function that detects HTTP 5xx status code
- M. Configure the function to return a 307 Temporary Redirect error response to the secondary ALB if the function detects 5xx status code
- N. Update the distribution's default behavior to send origin responses to the function.

Answer: B

Explanation:

To implement failover for the application to the secondary Region so that HTTP GET requests meet the desired RTO, the DevOps engineer should use the following solution:

? Create a new origin on the distribution for the secondary ALB. A CloudFront origin is the source of the content that CloudFront delivers to viewers. By creating a new origin for the secondary ALB, the DevOps engineer can configure CloudFront to route traffic to the secondary Region when the primary Region is unavailable¹

? Create a new origin group. Set the original ALB as the primary origin. Configure the origin group to fail over for HTTP 5xx status codes. An origin group is a logical grouping of two origins: a primary origin and a secondary origin. By creating an origin group, the DevOps engineer can specify which origin CloudFront should use as a fallback when the primary origin fails. The DevOps engineer can also define which HTTP status codes should trigger a failover from the primary origin to the secondary origin. By setting the original ALB as the primary origin and configuring the origin group to fail over for HTTP 5xx status codes, the DevOps engineer can ensure that CloudFront will switch to the secondary ALB when the primary ALB returns server errors²

? Update the default behavior to use the origin group. A behavior is a set of rules that CloudFront applies when it receives requests for specific URLs or file types. The default behavior applies to all requests that do not match any other behaviors. By updating the default behavior to use the origin group, the DevOps engineer can enable failover routing for all requests that are sent to the distribution³

This solution will meet the requirements because it will automate the failover of the application to the secondary Region with zero-second RTO. When CloudFront receives an HTTP GET request, it will first try to route it to the primary ALB in the primary Region. If the primary ALB is healthy and returns a successful response, CloudFront will deliver it to the viewer. If the primary ALB is unhealthy or returns an HTTP 5xx status code, CloudFront will automatically route the request to the secondary ALB in the secondary Region and deliver its response to the viewer. The other options are not correct because they either do not provide zero-second RTO or do not work as expected. Creating a second CloudFront distribution that has the secondary ALB as the default origin and creating Amazon Route 53 alias records that have a failover policy is not a good option because it will introduce additional latency and complexity to the solution. Route 53 health checks and DNS propagation can take several minutes or longer, which means that viewers might experience delays or errors when accessing the application during a failover event. Creating Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both ALBs and setting the TTL of both records to 0 is not a valid option because it will not work with CloudFront distributions. Route 53 does not support health checks for alias records that point to CloudFront distributions, so it cannot detect if an ALB behind a distribution is healthy or not.

Creating a CloudFront function that detects HTTP 5xx status codes and returns a 307 Temporary Redirect error response to the secondary ALB is not a valid option because it will not provide zero-second RTO. A 307 Temporary Redirect error response tells viewers to retry their requests with a different URL, which means that viewers will have to make an additional request and wait for another response from CloudFront before reaching the secondary ALB.

References:

- ? 1: Adding, Editing, and Deleting Origins - Amazon CloudFront
- ? 2: Configuring Origin Failover - Amazon CloudFront
- ? 3: Creating or Updating a Cache Behavior - Amazon CloudFront

NEW QUESTION 94

A company has 20 service teams. Each service team is responsible for its own microservice. Each service team uses a separate AWS account for its microservice and a VPC with the 192.168.0.0/22 CIDR block. The company manages the AWS accounts with AWS Organizations.

Each service team hosts its microservice on multiple Amazon EC2 instances behind an Application Load Balancer. The microservices communicate with each other across the public internet. The company's security team has issued a new guideline that all communication between microservices must use HTTPS over private network connections and cannot traverse the public internet.

A DevOps engineer must implement a solution that fulfills these obligations and minimizes the number of changes for each service team.

Which solution will meet these requirements?

- A. Create a new AWS account in AWS Organizations. Create a VPC in this account and use AWS Resource Access Manager to share the private subnets of this VPC with the organization. Instruct the service teams to launch a new
- B. Network Load Balancer (NLB) and EC2 instances that use the shared private subnets. Use the NLB DNS names for communication between microservices.
- C. Create a Network Load Balancer (NLB) in each of the microservice VPCs. Use AWS PrivateLink to create VPC endpoints in each AWS account for the NLBs. Create subscriptions to each VPC endpoint in each of the other AWS accounts. Use the VPC endpoint DNS names for communication between microservices.
- D. Create a Network Load Balancer (NLB) in each of the microservice VPCs. Create VPC peering connections between each of the microservice VPCs. Update the route tables for each VPC to use the peering links. Use the NLB DNS names for communication between microservices.
- E. Create a new AWS account in AWS Organizations. Create a transit gateway in this account and use AWS Resource Access Manager to share the transit gateway with the organization.
- F. In each of the microservice VPCs
- G. create a transit gateway attachment to the shared transit gateway. Update the route tables of each VPC to use the transit gateway. Create a Network Load Balancer (NLB) in each of the microservice VPCs. Use the NLB DNS names for communication between microservices.

Answer: B

Explanation:

<https://aws.amazon.com/blogs/networking-and-content-delivery/connecting-networks-with-overlapping-ip-ranges/> Private link is the best option because Transit Gateway doesn't support overlapping CIDR ranges.

NEW QUESTION 99

An IT team has built an AWS CloudFormation template so others in the company can quickly and reliably deploy and terminate an application. The template creates an Amazon EC2 instance with a user data script to install the application and an Amazon S3 bucket that the application uses to serve static webpages while it is running.

All resources should be removed when the CloudFormation stack is deleted. However, the team observes that CloudFormation reports an error during stack deletion, and the S3 bucket created by the stack is not deleted.

How can the team resolve the error in the MOST efficient manner to ensure that all resources are deleted without errors?

- A. Add a DeletionPolicy attribute to the S3 bucket resource, with the value Delete forcing the bucket to be removed when the stack is deleted.
- B. Add a custom resource with an AWS Lambda function with the DependsOn attribute specifying the S3 bucket, and an IAM role.
- C. Write the Lambda function to delete all objects from the bucket when RequestType is Delete.
- D. Identify the resource that was not deleted.
- E. Manually empty the S3 bucket and then delete it.
- F. Replace the EC2 and S3 bucket resources with a single AWS OpsWorks Stacks resource.
- G. Define a custom recipe for the stack to create and delete the EC2 instance and the S3 bucket.

Answer: B

Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/cloudformation-s3-custom-resources/>

NEW QUESTION 102

A company's security policies require the use of security hardened AMIs in production environments. A DevOps engineer has used EC2 Image Builder to create a pipeline that builds the AMIs on a recurring schedule.

The DevOps engineer needs to update the launch templates of the company's Auto Scaling groups. The Auto Scaling groups must use the newest AMI during the launch of Amazon EC2 instances.

Which solution will meet these requirements with the MOST operational efficiency?

- A. Configure an Amazon EventBridge rule to receive new AMI events from Image Builder.
- B. Target an AWS Systems Manager Run Command document that updates the launch templates of the Auto Scaling groups with the newest AMI ID.
- C. Configure an Amazon EventBridge rule to receive new AMI events from Image Builder.
- D. Target an AWS Lambda function that updates the launch templates of the Auto Scaling groups with the newest AMI ID.
- E. Configure the launch template to use a value from AWS Systems Manager Parameter Store for the AMI ID.
- F. Configure the Image Builder pipeline to update the Parameter Store value with the newest AMI ID.
- G. Configure the Image Builder distribution settings to update the launch templates with the newest AMI ID.
- H. Configure the Auto Scaling groups to use the newest version of the launch template.

Answer: C

Explanation:

? The most operationally efficient solution is to use AWS Systems Manager Parameter Store to store the AMI ID and reference it in the launch template. This way, the launch template does not need to be updated every time a new AMI is created by Image Builder. Instead, the Image Builder pipeline can update the Parameter Store value with the newest AMI ID, and the Auto Scaling group can launch instances using the latest value from Parameter Store.

? The other solutions require updating the launch template or creating a new version of it every time a new AMI is created, which adds complexity and overhead.

Additionally, using EventBridge rules and Lambda functions or Run Command documents introduces additional dependencies and potential points of failure.
References: 1: AWS Systems Manager Parameter Store 2: Using AWS Systems Manager parameters instead of AMI IDs in launch templates 3: Update an SSM parameter with Image Builder

NEW QUESTION 103

A company uses AWS Organizations to manage its AWS accounts. The company has a root OU that has a child OU. The root OU has an SCP that allows all actions on all resources. The child OU has an SCP that allows all actions for Amazon DynamoDB and AWS Lambda, and denies all other actions. The company has an AWS account that is named vendor-data in the child OU. A DevOps engineer has an IAM user that is attached to the AdministratorAccess IAM policy in the vendor-data account. The DevOps engineer attempts to launch an Amazon EC2 instance in the vendor-data account but receives an access denied error.

Which change should the DevOps engineer make to launch the EC2 instance in the vendor-data account?

- A. Attach the AmazonEC2FullAccess IAM policy to the IAM user.
- B. Create a new SCP that allows all actions for Amazon EC2. Attach the SCP to the vendor-data account.
- C. Update the SCP in the child OU to allow all actions for Amazon EC2.
- D. Create a new SCP that allows all actions for Amazon EC2. Attach the SCP to the root OU.

Answer: C

Explanation:

The correct answer is C. Updating the SCP in the child OU to allow all actions for Amazon EC2 will enable the DevOps engineer to launch the EC2 instance in the vendor-data account. SCPs are applied to OUs and accounts in a hierarchical manner, meaning that the SCPs attached to the parent OU are inherited by the child OU and accounts. Therefore, the SCP in the child OU overrides the SCP in the root OU and denies all actions except for DynamoDB and Lambda. By adding EC2 to the allowed actions in the child OU's SCP, the DevOps engineer can access EC2 resources in the vendor-data account.

Option A is incorrect because attaching the AmazonEC2FullAccess IAM policy to the IAM user will not grant the user access to EC2 resources. IAM policies are evaluated after SCPs, so even if the IAM policy allows EC2 actions, the SCP will still deny them.

Option B is incorrect because creating a new SCP that allows all actions for EC2 and attaching it to the vendor-data account will not work. SCPs are not cumulative, meaning that only one SCP is applied to an account at a time. The SCP attached to the account will be the SCP attached to the OU that contains the account. Therefore, option B will not change the SCP that is applied to the vendor-data account.

Option D is incorrect because creating a new SCP that allows all actions for EC2 and attaching it to the root OU will not work. As explained earlier, the SCP in the child OU overrides the SCP in the root OU and denies all actions except for DynamoDB and Lambda. Therefore, option D will not affect the SCP that is applied to the vendor-data account.

NEW QUESTION 108

To run an application, a DevOps engineer launches an Amazon EC2 instance with public IP addresses in a public subnet. A user data script obtains the application artifacts and installs them on the instances upon launch. A change to the security classification of the application now requires the instances to run with no access to the internet. While the instances launch successfully and show as healthy, the application does not seem to be installed.

Which of the following should successfully install the application while complying with the new rule?

- A. Launch the instances in a public subnet with Elastic IP addresses attached
- B. Once the application is installed and running, run a script to disassociate the Elastic IP addresses afterwards.
- C. Set up a NAT gateway
- D. Deploy the EC2 instances to a private subnet
- E. Update the private subnet's route table to use the NAT gateway as the default route.
- F. Publish the application artifacts to an Amazon S3 bucket and create a VPC endpoint for S3. Assign an IAM instance profile to the EC2 instances so they can read the application artifacts from the S3 bucket.
- G. Create a security group for the application instances and allow only outbound traffic to the artifact repository
- H. Remove the security group rule once the install is complete.

Answer: C

Explanation:

EC2 instances running in private subnets of a VPC can now have controlled access to S3 buckets, objects, and API functions that are in the same region as the VPC. You can use an S3 bucket policy to indicate which VPCs and which VPC Endpoints have access to your S3 buckets 1-

<https://aws.amazon.com/pt/blogs/aws/new-vpc-endpoint-for-amazon-s3/>

NEW QUESTION 112

A company is implementing AWS CodePipeline to automate its testing process. The company wants to be notified when the execution state fails and used the following custom event pattern in Amazon EventBridge:

```
{
  "source": [
    "aws.codepipeline"
  ],
  "detail-type": [
    "CodePipeline Action Execution State Change"
  ],
  "detail": {
    "state": [
      "FAILED"
    ]
  },
  "type": {
    "category": ["Approval"]
  }
}
```

Which type of events will match this event pattern?

- A. Failed deploy and build actions across all the pipelines
- B. All rejected or failed approval actions across all the pipelines
- C. All the events across all pipelines
- D. Approval actions across all the pipelines

Answer: B

Explanation:

Action-level states in events Action state Description
 STARTED The action is currently running. SUCCEEDED The action was completed successfully.
 FAILED For Approval actions, the FAILED state means the action was either rejected by the reviewer or failed due to an incorrect action configuration.
 CANCELED The action was canceled because the pipeline structure was updated.

NEW QUESTION 117

A company that runs many workloads on AWS has an Amazon EBS spend that has increased over time. The DevOps team notices there are many unattached EBS volumes. Although there are workloads where volumes are detached, volumes over 14 days old are stale and no longer needed. A DevOps engineer has been tasked with creating automation that deletes unattached EBS volumes that have been unattached for 14 days. Which solution will accomplish this?

- A. Configure the AWS Config ec2-volume-inuse-check managed rule with a configuration changes trigger type and an Amazon EC2 volume resource target
- B. Create a new Amazon CloudWatch Events rule scheduled to execute an AWS Lambda function in 14 days to delete the specified EBS volume.
- C. Use Amazon EC2 and Amazon Data Lifecycle Manager to configure a volume lifecycle policy
- D. Set the interval period for unattached EBS volumes to 14 days and set the retention rule to delete
- E. Set the policy target volumes as *
- F. Create an Amazon CloudWatch Events rule to execute an AWS Lambda function daily
- G. The Lambda function should find unattached EBS volumes and tag them with the current date, and delete unattached volumes that have tags with dates that are more than 14 days old.
- H. Use AWS Trusted Advisor to detect EBS volumes that have been detached for more than 14 days
- I. Execute an AWS Lambda function that creates a snapshot and then deletes the EBS volume.

Answer: C

Explanation:

The requirement is to create automation that deletes unattached EBS volumes that have been unattached for 14 days. To do this, the DevOps engineer needs to use the following steps:

- ? Create an Amazon CloudWatch Events rule to execute an AWS Lambda function daily. CloudWatch Events is a service that enables event-driven architectures by delivering events from various sources to targets. Lambda is a service that lets you run code without provisioning or managing servers. By creating a CloudWatch Events rule that executes a Lambda function daily, the DevOps engineer can schedule a recurring task to check and delete unattached EBS volumes.
- ? The Lambda function should find unattached EBS volumes and tag them with the current date, and delete unattached volumes that have tags with dates that are more than 14 days old. The Lambda function can use the EC2 API to list and filter unattached EBS volumes based on their state and tags. The function can then tag each unattached volume with the current date using the create-tags command. The function can also compare the tag value with the current date and delete any unattached volume that has been tagged more than 14 days ago using the delete-volume command.

NEW QUESTION 122

A company wants to deploy a workload on several hundred Amazon EC2 instances. The company will provision the EC2 instances in an Auto Scaling group by using a launch template.

The workload will pull files from an Amazon S3 bucket, process the data, and put the results into a different S3 bucket. The EC2 instances must have least-privilege permissions and must use temporary security credentials.

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

- A. Create an IAM role that has the appropriate permissions for S3 bucket

- B. Add the IAM role to an instance profile.
- C. Update the launch template to include the IAM instance profile.
- D. Create an IAM user that has the appropriate permissions for Amazon S3. Generate a secret key and token.
- E. Create a trust anchor and profile.
- F. Attach the IAM role to the profile.
- G. Update the launch template.
- H. Modify the user data to use the new secret key and token.

Answer: AB

Explanation:

To meet the requirements of deploying a workload on several hundred EC2 instances with least-privilege permissions and temporary security credentials, the company should use an IAM role and an instance profile. An IAM role is a way to grant permissions to an entity that you trust, such as an EC2 instance. An instance profile is a container for an IAM role that you can use to pass role information to an EC2 instance when the instance starts. By using an IAM role and an instance profile, the EC2 instances can automatically receive temporary security credentials from the AWS Security Token Service (STS) and use them to access the S3 buckets. This way, the company does not need to manage or rotate any long-term credentials, such as IAM users or access keys.

To use an IAM role and an instance profile, the company should create an IAM role that has the appropriate permissions for S3 buckets. The permissions should allow the EC2 instances to read from the source S3 bucket and write to the destination S3 bucket. The company should also create a trust policy for the IAM role that specifies that EC2 is allowed to assume the role. Then, the company should add the IAM role to an instance profile. An instance profile can have only one IAM role, so the company does not need to create multiple roles or profiles for this scenario.

Next, the company should update the launch template to include the IAM instance profile. A launch template is a way to save launch parameters for EC2 instances, such as the instance type, security group, user data, and IAM instance profile. By using a launch template, the company can ensure that all EC2 instances in the Auto Scaling group have consistent configuration and permissions. The company should specify the name or ARN of the IAM instance profile in the launch template. This way, when the Auto Scaling group launches new EC2 instances based on the launch template, they will automatically receive the IAM role and its permissions through the instance profile.

The other options are not correct because they do not meet the requirements or follow best practices. Creating an IAM user and generating a secret key and token is not a good option because it involves managing long-term credentials that need to be rotated regularly. Moreover, embedding credentials in user data is not secure because user data is visible to anyone who can describe the EC2 instance. Creating a trust anchor and profile is not a valid option because trust anchors are used for certificate-based authentication, not for IAM roles or instance profiles. Modifying user data to use a new secret key and token is also not a good option because it requires updating user data every time the credentials change, which is not scalable or efficient.

References:

- ? 1: AWS Certified DevOps Engineer - Professional Certification | AWS Certification | AWS
- ? 2: DevOps Resources - Amazon Web Services (AWS)
- ? 3: Exam Readiness: AWS Certified DevOps Engineer - Professional
- ? : IAM Roles for Amazon EC2 - AWS Identity and Access Management
- ? : Working with Instance Profiles - AWS Identity and Access Management
- ? : Launching an Instance Using a Launch Template - Amazon Elastic Compute Cloud
- ? : Temporary Security Credentials - AWS Identity and Access Management

NEW QUESTION 123

A company needs to ensure that flow logs remain configured for all existing and new VPCs in its AWS account. The company uses an AWS CloudFormation stack to manage its VPCs. The company needs a solution that will work for any VPCs that any IAM user creates. Which solution will meet these requirements?

- A. Add the resource to the CloudFormation stack that creates the VPCs.
- B. Create an organization in AWS Organization
- C. Add the company's AWS account to the organization
- D. Create an SCP to prevent users from modifying VPC flow logs.
- E. Turn on AWS Config
- F. Create an AWS Config rule to check whether VPC flow logs are turned on
- G. Configure automatic remediation to turn on VPC flow logs.
- H. Create an IAM policy to deny the use of API calls for VPC flow logs
- I. Attach the IAM policy to all IAM users.

Answer: C

Explanation:

To meet the requirements of ensuring that flow logs remain configured for all existing and new VPCs in the AWS account, the company should use AWS Config and automatic remediation. AWS Config is a service that enables customers to assess, audit, and evaluate the configurations of their AWS resources. AWS Config continuously monitors and records the configuration changes of the AWS resources and evaluates them against desired configurations. Customers can use AWS Config rules to define the desired configuration state of their AWS resources and trigger actions when a resource configuration violates a rule.

One of the AWS Config rules that customers can use is `vpc-flow-logs-enabled`, which checks whether VPC flow logs are enabled for all VPCs in an AWS account. Customers can also configure automatic remediation for this rule, which means that AWS Config will automatically enable VPC flow logs for any VPCs that do not have them enabled. Customers can specify the destination (CloudWatch Logs or S3) and the traffic type (all, accept, or reject) for the flow logs as remediation parameters. By using AWS Config and automatic remediation, the company can ensure that flow logs remain configured for all existing and new VPCs in its AWS account, regardless of who creates them or how they are created.

The other options are not correct because they do not meet the requirements or follow best practices. Adding the resource to the CloudFormation stack that creates the VPCs is not a sufficient solution because it will only work for VPCs that are created by using the CloudFormation stack. It will not work for VPCs that are created by using other methods, such as the console or the API. Creating an organization in AWS Organizations and creating an SCP to prevent users from modifying VPC flow logs is not a good solution because it will not ensure that flow logs are enabled for all VPCs in the first place. It will only prevent users from disabling or changing flow logs after they are enabled. Creating an IAM policy to deny the use of API calls for VPC flow logs and attaching it to all IAM users is not a valid solution because it will prevent users from enabling or disabling flow logs at all.

It will also not work for VPCs that are created by using other methods, such as the console or CloudFormation.

References:

- ? 1: AWS::EC2::FlowLog - AWS CloudFormation
- ? 2: Amazon VPC Flow Logs extends CloudFormation Support to custom format subscriptions, 1-minute aggregation intervals and tagging
- ? 3: Logging IP traffic using VPC Flow Logs - Amazon Virtual Private Cloud
- ? : About AWS Config - AWS Config
- ? : `vpc-flow-logs-enabled` - AWS Config
- ? : Remediate Noncompliant Resources with AWS Config Rules - AWS Config

NEW QUESTION 128

A company has a guideline that every Amazon EC2 instance must be launched from an AMI that the company's security team produces. Every month the security team sends an email message with the latest approved AMIs to all the development teams.

The development teams use AWS CloudFormation to deploy their applications. When developers launch a new service they have to search their email for the latest AMIs that the security department sent. A DevOps engineer wants to automate the process that the security team uses to provide the AMI IDs to the development teams.

What is the MOST scalable solution that meets these requirements?

- A. Direct the security team to use CloudFormation to create new versions of the AMIs and to list the AMI ARNs in an encrypted Amazon S3 object as part of the stack's Outputs Section. Instruct the developers to use a cross-stack reference to load the encrypted S3 object and obtain the most recent AMI ARNs.
- B. Direct the security team to use a CloudFormation stack to create an AWS CodePipeline pipeline that builds new AMIs and places the latest AMI ARNs in an encrypted Amazon S3 object as part of the pipeline output. Instruct the developers to use a cross-stack reference within their own CloudFormation template to obtain the S3 object location and the most recent AMI ARNs.
- C. Direct the security team to use Amazon EC2 Image Builder to create new AMIs and to place the AMI ARNs as parameters in AWS Systems Manager Parameter Store. Instruct the developers to specify a parameter of type SSM in their CloudFormation stack to obtain the most recent AMI ARNs from Parameter Store.
- D. Direct the security team to use Amazon EC2 Image Builder to create new AMIs and to create an Amazon Simple Notification Service (Amazon SNS) topic so that every development team can receive notification.
- E. When the development teams receive a notification, instruct them to write an AWS Lambda function that will update their CloudFormation stack with the most recent AMI ARNs.

Answer: C

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/dynamic-references.html>

NEW QUESTION 133

A company uses an organization in AWS Organizations that has all features enabled. The company uses AWS Backup in a primary account and uses an AWS Key Management Service (AWS KMS) key to encrypt the backups.

The company needs to automate a cross-account backup of the resources that AWS Backup backs up in the primary account. The company configures cross-account backup in the Organizations management account. The company creates a new AWS account in the organization and configures an AWS Backup backup vault in the new account. The company creates a KMS key in the new account to encrypt the backups. Finally, the company configures a new backup plan in the primary account. The destination for the new backup plan is the backup vault in the new account.

When the AWS Backup job in the primary account is invoked, the job creates backups in the primary account. However, the backups are not copied to the new account's backup vault.

Which combination of steps must the company take so that backups can be copied to the new account's backup vault? (Select TWO.)

- A. Edit the backup vault access policy in the new account to allow access to the primary account.
- B. Edit the backup vault access policy in the primary account to allow access to the new account.
- C. Edit the backup vault access policy in the primary account to allow access to the KMS key in the new account.
- D. Edit the key policy of the KMS key in the primary account to share the key with the new account.
- E. Edit the key policy of the KMS key in the new account to share the key with the primary account.

Answer: AE

Explanation:

To enable cross-account backup, the company needs to grant permissions to both the backup vault and the KMS key in the destination account. The backup vault access policy in the destination account must allow the primary account to copy backups into the vault. The key policy of the KMS key in the destination account must allow the primary account to use the key to encrypt and decrypt the backups. These steps are described in the AWS documentation¹². Therefore, the correct answer is A and E.

References:

? 1: Creating backup copies across AWS accounts - AWS Backup

? 2: Using AWS Backup with AWS Organizations - AWS Backup

NEW QUESTION 137

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