

## Exam Questions DOP-C02

AWS Certified DevOps Engineer - Professional

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**NEW QUESTION 1**

A company uses a single AWS account to test applications on Amazon EC2 instances. The company has turned on AWS Config in the AWS account and has activated the restricted-ssh AWS Config managed rule.

The company needs an automated monitoring solution that will provide a customized notification in real time if any security group in the account is not compliant with the restricted-ssh rule. The customized notification must contain the name and ID of the noncompliant security group.

A DevOps engineer creates an Amazon Simple Notification Service (Amazon SNS) topic in the account and subscribes the appropriate personnel to the topic. What should the DevOps engineer do next to meet these requirements?

- A. Create an Amazon EventBridge rule that matches an AWS Config evaluation result of NON\_COMPLIANT for the restricted-ssh rule
- B. Configure an input transformer for the EventBridge rule
- C. Configure the EventBridge rule to publish a notification to the SNS topic.
- D. Configure AWS Config to send all evaluation results for the restricted-ssh rule to the SNS topic
- E. Configure a filter policy on the SNS topic to send only notifications that contain the text of NON\_COMPLIANT in the notification to subscribers.
- F. Create an Amazon EventBridge rule that matches an AWS Config evaluation result of NON\_COMPLIANT for the restricted-ssh rule
- G. Configure the EventBridge rule to invoke AWS Systems Manager Run Command on the SNS topic to customize a notification and to publish the notification to the SNS topic
- H. Create an Amazon EventBridge rule that matches all AWS Config evaluation results of NON\_COMPLIANT
- I. Configure an input transformer for the restricted-ssh rule
- J. Configure the EventBridge rule to publish a notification to the SNS topic.

**Answer:** A

**Explanation:**

Create an Amazon EventBridge (Amazon CloudWatch Events) rule that matches an AWS Config evaluation result of NON\_COMPLIANT for the restricted-ssh rule. Configure an input transformer for the EventBridge (CloudWatch Events) rule. Configure the EventBridge (CloudWatch Events) rule to publish a notification to the SNS topic. This approach uses Amazon EventBridge (previously known as Amazon CloudWatch Events) to filter AWS Config evaluation results based on the restricted-ssh rule and its compliance status (NON\_COMPLIANT). An input transformer can be used to customize the information contained in the notification, such as the name and ID of the noncompliant security group. The EventBridge (CloudWatch Events) rule can then be configured to publish a notification to the SNS topic, which will notify the appropriate personnel in real-time.

**NEW QUESTION 2**

A company is examining its disaster recovery capability and wants the ability to switch over its daily operations to a secondary AWS Region. The company uses AWS CodeCommit as a source control tool in the primary Region.

A DevOps engineer must provide the capability for the company to develop code in the secondary Region. If the company needs to use the secondary Region, developers can add an additional remote URL to their local Git configuration.

Which solution will meet these requirements?

- A. Create a CodeCommit repository in the secondary Region
- B. Create an AWS CodeBuild project to perform a Git mirror operation of the primary Region's CodeCommit repository to the secondary Region's CodeCommit repository
- C. Create an AWS Lambda function that invokes the CodeBuild project
- D. Create an Amazon EventBridge rule that reacts to merge events in the primary Region's CodeCommit repository
- E. Configure the EventBridge rule to invoke the Lambda function.
- F. Create an Amazon S3 bucket in the secondary Region
- G. Create an AWS Fargate task to perform a Git mirror operation of the primary Region's CodeCommit repository and copy the result to the S3 bucket
- H. Create an AWS Lambda function that initiates the Fargate task
- I. Create an Amazon EventBridge rule that reacts to merge events in the CodeCommit repository
- J. Configure the EventBridge rule to invoke the Lambda function.
- K. Create an AWS CodeArtifact repository in the secondary Region
- L. Create an AWS CodePipeline pipeline that uses the primary Region's CodeCommit repository for the source action
- M. Create a Cross-Region stage in the pipeline that packages the CodeCommit repository contents and stores the contents in the CodeArtifact repository when a pull request is merged into the CodeCommit repository.
- N. Create an AWS Cloud9 environment and a CodeCommit repository in the secondary Region
- O. Configure the primary Region's CodeCommit repository as a remote repository in the AWS Cloud9 environment
- P. Connect the secondary Region's CodeCommit repository to the AWS Cloud9 environment.

**Answer:** A

**Explanation:**

The best solution to meet the disaster recovery capability and allow developers to switch over to a secondary AWS Region for code development is option A. This involves creating a CodeCommit repository in the secondary Region and setting up an AWS CodeBuild project to perform a Git mirror operation of the primary Region's CodeCommit repository to the secondary Region's repository. An AWS Lambda function is then created to invoke the CodeBuild project. Additionally, an Amazon EventBridge rule is configured to react to merge events in the primary Region's CodeCommit repository and invoke the Lambda function<sup>1</sup>. This setup ensures that the secondary Region's repository is always up-to-date with the primary repository, allowing for a seamless transition in case of a disaster recovery event<sup>1</sup>.

References:

<sup>1</sup> AWS CodeCommit User Guide on resilience and disaster recovery<sup>1</sup>.

<sup>2</sup> AWS Documentation on monitoring CodeCommit events in Amazon EventBridge and Amazon CloudWatch Events<sup>2</sup>.

**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

A DevOps engineer is implementing governance controls for a company that requires its infrastructure to be housed within the United States. The engineer must restrict which AWS Regions can be used, and ensure an alert is sent as soon as possible if any activity outside the governance policy takes place. The controls should be automatically enabled on any new Region outside the United States (US).

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

- A. Create an AWS Organizations SCP that denies access to all non-global services in non- US Region
- B. Attach the policy to the root of the organization.
- C. Configure AWS CloudTrail to send logs to Amazon CloudWatch Logs and enable it for all Region
- D. Use a CloudWatch Logs metric filter to send an alert on any service activity in non-US Regions.
- E. Use an AWS Lambda function that checks for AWS service activity and deploy it to all Region
- F. Write an Amazon EventBridge rule that runs the Lambda function every hour, sending an alert if activity is found in a non-US Region.
- G. Use an AWS Lambda function to query Amazon Inspector to look for service activity in non-US Regions and send alerts if any activity is found.
- H. Write an SCP using the aws: RequestedRegion condition key limiting access to US Region
- I. Apply the policy to all users, groups, and roles

**Answer:** AB

#### Explanation:

To implement governance controls that restrict AWS service usage to within the United States and ensure alerts for any activity outside the governance policy, the following actions will meet the requirements:

? A. Create an AWS Organizations SCP that denies access to all non-global services in non-US Regions. Attach the policy to the root of the organization. This action will effectively prevent users and roles in all accounts within the organization from accessing services in non-US Regions<sup>12</sup>.

? B. Configure AWS CloudTrail to send logs to Amazon CloudWatch Logs and enable it for all Regions. Use a CloudWatch Logs metric filter to send an alert on any service activity in non-US Regions. This action will allow monitoring of all AWS Regions and will trigger alerts if any activity is detected in non-US Regions, ensuring that the governance team is notified as soon as possible<sup>3</sup>.

References:

? AWS Documentation on Service Control Policies (SCPs) and how they can be used to manage permissions and restrict access based on Regions<sup>12</sup>.

? AWS Documentation on monitoring CloudTrail log files with Amazon CloudWatch Logs to set up alerts for specific activities<sup>3</sup>.

#### NEW QUESTION 6

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 consumers<sup>1</sup>. 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 stream<sup>2</sup>. 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 stream<sup>3</sup>. 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 latency<sup>4</sup>. 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 7**

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 bucket
- 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 configuration<sup>123</sup>

? 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 traffic<sup>45</sup>

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 development<sup>67</sup>

**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 8**

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 9**

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 10**

A company has a data ingestion application that runs across multiple AWS accounts. The accounts are in an organization in AWS Organizations. The company needs to monitor the application and consolidate access to the application. Currently the company is running the application on Amazon EC2 instances from several Auto Scaling groups. The EC2 instances have no access to the internet because the data is sensitive. Engineers have deployed the necessary VPC endpoints. The EC2 instances run a custom AMI that is built specifically for the application.

To maintain and troubleshoot the application, system administrators need the ability to log in to the EC2 instances. This access must be automated and controlled centrally. The company's security team must receive a notification whenever the instances are accessed.

Which solution will meet these requirements?

- A. Create an Amazon EventBridge rule to send notifications to the security team whenever a user logs in to an EC2 instance. Use EC2 Instance Connect to log in to the instance.
- B. Deploy Auto Scaling groups by using AWS CloudFormation. Use the cfn-init helper script to deploy appropriate VPC routes for external access. Rebuild the custom AMI so that the custom AMI includes AWS Systems Manager Agent.
- C. Deploy a NAT gateway and a bastion host that has internet access. Create a security group that allows incoming traffic on all the EC2 instances from the bastion host. Install AWS Systems Manager Agent on all the EC2 instances. Use Auto Scaling group lifecycle hooks for monitoring and auditing access. Use Systems Manager Session Manager to log into the instances. Send logs to a log group in Amazon CloudWatch Log.
- D. Export data to Amazon S3 for auditing. Send notifications to the security team by using S3 event notifications.
- E. Use EC2 Image Builder to rebuild the custom AMI. Include the most recent version of AWS Systems Manager Agent in the image. Configure the Auto Scaling group to attach the AmazonSSMManagedInstanceCore role to all the EC2 instances. Use Systems Manager Session Manager to log in to the instances. Enable logging of session details to Amazon S3. Create an S3 event notification for new file uploads to send a message to the security team through an Amazon Simple Notification Service (Amazon SNS) topic.
- F. Use AWS Systems Manager Automation to build Systems Manager Agent into the custom AMI. Configure AWS Config to attach an SCP to the root organization account to allow the EC2 instances to connect to Systems Manager. Use Systems Manager Session Manager to log in to the instances. Enable logging of session details to Amazon S3. Create an S3 event notification for new file uploads to send a message to the security team through an Amazon Simple Notification Service (Amazon SNS) topic.

**Answer:** C

**Explanation:**

Even if AmazonSSMManagedInstanceCore is a managed policy and not an IAM role, I will go with C because this policy is to be attached to an IAM role for EC2 to access Systems Manager.

**NEW QUESTION 10**

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 12**

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 13**

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 intervention<sup>1</sup>. References:  
? AWS CodeBuild User Guide on test reporting<sup>1</sup>.  
? AWS CodeBuild User Guide on working with report groups<sup>2</sup>.  
? AWS Documentation on using AWS CodePipeline with AWS CodeBuild<sup>3</sup>.

#### NEW QUESTION 14

A large enterprise is deploying a web application on AWS. The application runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. The application stores data in an Amazon RDS for Oracle DB instance and Amazon DynamoDB. There are separate environments for development testing and production. What is the MOST secure and flexible way to obtain password credentials during deployment?

- A. Retrieve an access key from an AWS Systems Manager securestring parameter to access AWS service
- B. Retrieve the database credentials from a Systems Manager SecureString parameter.
- C. Launch the EC2 instances with an EC2 IAM role to access AWS services Retrieve the database credentials from AWS Secrets Manager.
- D. Retrieve an access key from an AWS Systems Manager plaintext parameter to access AWS service
- E. Retrieve the database credentials from a Systems Manager SecureString parameter.
- F. Launch the EC2 instances with an EC2 IAM role to access AWS services Store the database passwords in an encrypted config file with the application artifacts.

**Answer:** B

#### Explanation:

AWS Secrets Manager is a secrets management service that helps you protect access to your applications, services, and IT resources. This service enables you to easily rotate, manage, and retrieve database credentials, API keys, and other secrets throughout their lifecycle. Using Secrets Manager, you can secure and manage secrets used to access resources in the AWS Cloud, on third-party services, and on-premises. SSM parameter store and AWS Secret manager are both a secure option. However, Secrets manager is more flexible and has more options like password generation. Reference:  
<https://www.1strategy.com/blog/2019/02/28/aws-parameter-store-vs-aws-secrets-manager/>

#### NEW QUESTION 19

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 subscribe 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 Synthetics 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 Synthetics canary that runs a custom script to query the applications on a 5-minute interval is a valid solution. CloudWatch Synthetics 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 issues<sup>1</sup>.

? 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 group<sup>2</sup>. 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 23

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](https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account_with-roles.html)

**NEW QUESTION 25**

A DevOps engineer is deploying a new version of a company's application in an AWS CodeDeploy deployment group associated with its Amazon EC2 instances. After some time, the deployment fails. The engineer realizes that all the events associated with the specific deployment ID are in a Skipped status and code was not deployed in the instances associated with the deployment group.

What are valid reasons for this failure? (Select TWO.).

- A. The networking configuration does not allow the EC2 instances to reach the internet via a NAT gateway or internet gateway and the CodeDeploy endpoint cannot be reached.
- B. The IAM user who triggered the application deployment does not have permission to interact with the CodeDeploy endpoint.
- C. The target EC2 instances were not properly registered with the CodeDeploy endpoint.
- D. An instance profile with proper permissions was not attached to the target EC2 instances.
- E. The appspec
- F. .yml file was not included in the application revision.

**Answer:** AD

**Explanation:**

[https://docs.aws.amazon.com/codedeploy/latest/userguide/troubleshooting\\_deployments.html#troubleshooting-skipped-lifecycle-events](https://docs.aws.amazon.com/codedeploy/latest/userguide/troubleshooting_deployments.html#troubleshooting-skipped-lifecycle-events)

**NEW QUESTION 28**

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 require
- 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 32**

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 34**

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 OU
- D. Attach the new SCP to the new OU
- 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 OU
- 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 OU
- 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 access.

? 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 OU.

? 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 SCP.

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 39**

A company has multiple accounts in an organization in AWS Organizations. The company's SecOps team needs to receive an Amazon Simple Notification Service (Amazon SNS) notification if any account in the organization turns off the Block Public Access feature on an Amazon S3 bucket. A DevOps engineer must implement this change without affecting the operation of any AWS accounts. The implementation must ensure that individual member accounts in the organization cannot turn off the notification.

Which solution will meet these requirements?

- A. Designate an account to be the delegated Amazon GuardDuty administrator account
- B. Turn on GuardDuty for all accounts across the organization
- C. In the GuardDuty administrator account, create an SNS topic
- D. Subscribe the SecOps team's email address to the SNS topic
- E. In the same account, create an Amazon EventBridge rule that uses an event pattern for GuardDuty findings and a target of the SNS topic.
- F. Create an AWS CloudFormation template that creates an SNS topic and subscribes the SecOps team's email address to the SNS topic
- G. In the template, include an Amazon EventBridge rule that uses an event pattern of CloudTrail activity for s3:PutBucketPublicAccessBlock and a target of the SNS topic
- H. Deploy the stack to every account in the organization by using CloudFormation StackSets.
- I. Turn on AWS Config across the organization
- J. In the delegated administrator account, create an SNS topic
- K. Subscribe the SecOps team's email address to the SNS topic
- L. Deploy a conformance pack that uses the s3-bucket-level-public-access-prohibited AWS Config managed rule in each account and uses an AWS Systems Manager document to publish an event to the SNS topic to notify the SecOps team.
- M. Turn on Amazon Inspector across the organization
- N. In the Amazon Inspector delegated administrator account, create an SNS topic
- O. Subscribe the SecOps team's email address to the SNS topic
- P. In the same account, create an Amazon EventBridge rule that uses an event pattern for public network exposure of the S3 bucket and publishes an event to the SNS topic to notify the SecOps team.

**Answer: C**

**Explanation:**

Amazon GuardDuty is primarily on threat detection and response, not configuration monitoring. A conformance pack is a collection of AWS Config rules and remediation actions that can be easily deployed as a single entity in an account and a Region or across an organization in AWS Organizations.

<https://docs.aws.amazon.com/config/latest/developerguide/conformance-packs.html> <https://docs.aws.amazon.com/config/latest/developerguide/s3-account-level-public-access-blocks.html>

**NEW QUESTION 44**

A company has chosen AWS to host a new application. The company needs to implement a multi-account strategy. A DevOps engineer creates a new AWS account and an organization in AWS Organizations. The DevOps engineer also creates the OU structure for the organization and sets up a landing zone by using AWS Control Tower.

The DevOps engineer must implement a solution that automatically deploys resources for new accounts that users create through AWS Control Tower Account Factory. When a user creates a new account, the solution must apply AWS CloudFormation templates and SCPs that are customized for the OU or the account to automatically deploy all the resources that are attached to the account. All the OUs are enrolled in AWS Control Tower.

Which solution will meet these requirements in the MOST automated way?

- A. Use AWS Service Catalog with AWS Control Tower
- B. Create portfolios and products in AWS Service Catalog
- C. Grant granular permissions to provision these resources
- D. Deploy SCPs by using the AWS CLI and JSON documents.
- E. Deploy CloudFormation stack sets by using the required template
- F. Enable automatic deployments
- G. Deploy stack instances to the required account
- H. Deploy a CloudFormation stack set to the organization's management account to deploy SCPs.
- I. Create an Amazon EventBridge rule to detect the CreateManagedAccount event
- J. Configure AWS Service Catalog as the target to deploy resources to any new account
- K. Deploy SCPs by using the AWS CLI and JSON documents.
- L. Deploy the Customizations for AWS Control Tower (CfCT) solution
- M. Use an AWS CodeCommit repository as the source
- N. In the repository, create a custom package that includes the CloudFormation templates and the SCP JSON documents.

**Answer: D**

**Explanation:**

The CfCT solution is designed for the exact purpose stated in the question. It extends the capabilities of AWS Control Tower by providing you with a way to automate resource provisioning and apply custom configurations across all AWS accounts created in the Control Tower environment. This enables the company to implement additional account customizations when new accounts are provisioned via the Control Tower Account Factory. The CloudFormation templates and SCPs can be added to a CodeCommit repository and will be automatically deployed to new accounts when they are created. This provides a highly automated solution that does not require manual intervention to deploy resources and SCPs to new accounts.

**NEW QUESTION 49**

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 ALB
- H. Create a listener on port 443. and specify the dualstack IP address type on the ALB

- 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 50**

A company's application is currently deployed to a single AWS Region. Recently, the company opened a new office on a different continent. The users in the new office are experiencing high latency. The company's application runs on Amazon EC2 instances behind an Application Load Balancer (ALB) and uses Amazon DynamoDB as the database layer. The instances run in an EC2 Auto Scaling group across multiple Availability Zones. A DevOps engineer is tasked with minimizing application response times and improving availability for users in both Regions.

Which combination of actions should be taken to address the latency issues? (Choose three.)

- A. Create a new DynamoDB table in the new Region with cross-Region replication enabled.
- B. Create new ALB and Auto Scaling group global resources and configure the new ALB to direct traffic to the new Auto Scaling group.
- C. Create new ALB and Auto Scaling group resources in the new Region and configure the new ALB to direct traffic to the new Auto Scaling group.
- D. Create Amazon Route 53 records, health checks, and latency-based routing policies to route to the ALB.
- E. Create Amazon Route 53 aliases, health checks, and failover routing policies to route to the ALB.
- F. Convert the DynamoDB table to a global table.

**Answer:** CDF

**Explanation:**

C. Create new ALB and Auto Scaling group resources in the new Region and configure the new ALB to direct traffic to the new Auto Scaling group. This will allow users in the new Region to access the application with lower latency by reducing the network hops between the user and the application servers.

\* D. Create Amazon Route 53 records, health checks, and latency-based routing policies to route to the ALB. This will enable Route 53 to route user traffic to the nearest healthy ALB, based on the latency between the user and the ALBs.

\* F. Convert the DynamoDB table to a global table. This will enable reads and writes to the table in both Regions with low latency, improving the overall response time of the application

**NEW QUESTION 51**

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

**NEW QUESTION 53**

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 times a file is accessed. 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



- 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 57**

A company has deployed a critical application in two AWS Regions. The application uses an Application Load Balancer (ALB) in both Regions. The company has Amazon Route 53 alias DNS records for both ALBs.

The company uses Amazon Route 53 Application Recovery Controller to ensure that the application can fail over between the two Regions. The Route 53 ARC configuration includes a routing control for both Regions. The company uses Route 53 ARC to perform quarterly disaster recovery (DR) tests.

During the most recent DR test, a DevOps engineer accidentally turned off both routing controls. The company needs to ensure that at least one routing control is turned on at all times.

Which solution will meet these requirements?

- A. In Route 53 ARC, create a new assertion safety rule
- B. Apply the assertion safety rule to the two routing controls
- C. Configure the rule with the ATLEAST type with a threshold of 1.
- D. In Route 53 ARC, create a new gating safety rule
- E. Apply the assertion safety rule to the two routing controls
- F. Configure the rule with the OR type with a threshold of 1.
- G. In Route 53 ARC, create a new resource set
- H. Configure the resource set with an AWS: Route53: HealthCheck resource type
- I. Specify the ARNs of the two routing controls as the target resources
- J. Create a new readiness check for the resource set.
- K. In Route 53 ARC, create a new resource set
- L. Configure the resource set with an AWS: Route53RecoveryReadiness: DNSTargetResource resource type
- M. Add the domain names of the two Route 53 alias DNS records as the target resources
- N. Create a new readiness check for the resource set.

**Answer: A**

**Explanation:**

The correct solution is to create a new assertion safety rule in Route 53 ARC and apply it to the two routing controls. An assertion safety rule is a type of safety rule that ensures that a minimum number of routing controls are always enabled. The ATLEAST type of assertion safety rule specifies the minimum number of routing controls that must be enabled for the rule to evaluate as healthy. By setting the threshold to 1, the rule ensures that at least one routing control is always turned on. This prevents the scenario where both routing controls are accidentally turned off and the application becomes unavailable in both Regions.

The other solutions are incorrect because they do not use safety rules to prevent both routing controls from being turned off. A gating safety rule is a type of safety rule that prevents routing control state changes that violate the rule logic. The OR type of gating safety rule specifies that one or more routing controls must be enabled for the rule to evaluate as healthy. However, this rule does not prevent a user from turning off both routing controls manually. A resource set is a collection of resources that are tested for readiness by Route 53 ARC. A readiness check is a test that verifies that all the resources in a resource set are operational.

However, these concepts are not related to routing control states or safety rules. Therefore, creating a new resource set and a new readiness check will not ensure that at least one routing control is turned on at all times. References:

- ? Routing control in Amazon Route 53 Application Recovery Controller
- ? Viewing and updating routing control states in Route 53 ARC
- ? Creating a control panel in Route 53 ARC
- ? Creating safety rules in Route 53 ARC

**NEW QUESTION 62**

A DevOps team uses AWS CodePipeline, AWS CodeBuild, and AWS CodeDeploy to deploy an application. The application is a REST API that uses AWS Lambda functions and Amazon API Gateway. Recent deployments have introduced errors that have affected many customers.

The DevOps team needs a solution that reverts to the most recent stable version of the application when an error is detected. The solution must affect the fewest customers possible.

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

- A. Set the deployment configuration in CodeDeploy to LambdaAllAtOnce. Configure automatic rollbacks on the deployment group. Create an Amazon CloudWatch alarm that detects HTTP Bad Gateway errors on API Gateway. Configure the deployment group to roll back when the number of alarms meets the alarm threshold.
- B. Set the deployment configuration in CodeDeploy to LambdaCanary10Percent10Minute.
- C. Configure automatic rollbacks on the deployment group. Create an Amazon CloudWatch alarm that detects HTTP Bad Gateway errors on API Gateway. Configure the deployment group to roll back when the number of alarms meets the alarm threshold.
- D. Set the deployment configuration in CodeDeploy to LambdaAllAtOnce. Configure manual rollbacks on the deployment group.
- E. Create an Amazon Simple Notification Service (Amazon SNS) topic to send notifications every time a deployment fails.
- F. Configure the SNS topic to invoke a new Lambda function that stops the current deployment and starts the most recent successful deployment.
- G. Set the deployment configuration in CodeDeploy to LambdaCanary10Percent10Minutes. Configure manual rollbacks on the deployment group. Create a metric filter on an Amazon CloudWatch log group for API Gateway to monitor HTTP Bad Gateway error.
- H. Configure the metric filter to invoke a new Lambda function that stops the current deployment and starts the most recent successful deployment.

**Answer: B**

**Explanation:**

? Option A is incorrect because setting the deployment configuration to LambdaAllAtOnce means that the new version of the application will be deployed to all

Lambda functions at once, affecting all customers. This does not meet the requirement of affecting the fewest customers possible. Moreover, configuring automatic rollbacks on the deployment group is not operationally efficient, as it requires manual intervention to fix the errors and redeploy the application.

? Option B is correct because setting the deployment configuration to LambdaCanary10Percent10Minutes means that the new version of the application will be deployed to 10 percent of the Lambda functions first, and then to the remaining 90 percent after 10 minutes. This minimizes the impact of errors on customers, as only 10 percent of them will be affected by a faulty deployment. Configuring automatic rollbacks on the deployment group also meets the requirement of reverting to the most recent stable version of the application when an error is detected. Creating a CloudWatch alarm that detects HTTP Bad Gateway errors on API Gateway is a valid way to monitor the health of the application and trigger a rollback if needed.

? Option C is incorrect because setting the deployment configuration to LambdaAllAtOnce means that the new version of the application will be deployed to all Lambda functions at once, affecting all customers. This does not meet the requirement of affecting the fewest customers possible. Moreover, configuring manual rollbacks on the deployment group is not operationally efficient, as it requires human intervention to stop the current deployment and start a new one. Creating an SNS topic to send notifications every time a deployment fails is not sufficient to detect errors in the application, as it does not monitor the API Gateway responses.

? Option D is incorrect because configuring manual rollbacks on the deployment group is not operationally efficient, as it requires human intervention to stop the current deployment and start a new one. Creating a metric filter on a CloudWatch log group for API Gateway to monitor HTTP Bad Gateway errors is a valid way to monitor the health of the application, but invoking a new Lambda function to perform a rollback is unnecessary and complex, as CodeDeploy already provides automatic rollback functionality.

References:

? AWS CodeDeploy Deployment Configurations

? [AWS CodeDeploy Rollbacks]

? Amazon CloudWatch Alarms

### NEW QUESTION 65

A company has migrated its container-based applications to Amazon EKS and want to establish automated email notifications. The notifications sent to each email address are for specific activities related to EKS components. The solution will include Amazon SNS topics and an AWS Lambda function to evaluate incoming log events and publish messages to the correct SNS topic.

Which logging solution will support these requirements?

- A. Enable Amazon CloudWatch Logs to log the EKS component
- B. Create a CloudWatch subscription filter for each component with Lambda as the subscription feed destination.
- C. Enable Amazon CloudWatch Logs to log the EKS component
- D. Create CloudWatch Logs Insights queries linked to Amazon EventBridge events that invoke Lambda.
- E. Enable Amazon S3 logging for the EKS component
- F. Configure an Amazon CloudWatch subscription filter for each component with Lambda as the subscription feed destination.
- G. Enable Amazon S3 logging for the EKS component
- H. Configure S3 PUT Object event notifications with AWS Lambda as the destination.

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/SubscriptionFilters.html#LambdaFunctionExample>

<https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/SubscriptionFilters.html>

### NEW QUESTION 69

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<sup>1</sup>. The buildspec file can specify the steps to restore the DB cluster from a snapshot, run the integration tests, and drop the restored database<sup>2</sup>

### NEW QUESTION 72

A company has multiple development groups working in a single shared AWS account. The Senior Manager of the groups wants to be alerted via a third-party API call when the creation of resources approaches the service limits for the account.

Which solution will accomplish this with the LEAST amount of development effort?

- A. Create an Amazon CloudWatch Event rule that runs periodically and targets an AWS Lambda function
- B. Within the Lambda function, evaluate the current state of the AWS environment and compare deployed resource values to resource limits on the account
- C. Notify the Senior Manager if the account is approaching a service limit.
- D. Deploy an AWS Lambda function that refreshes AWS Trusted Advisor checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically
- E. Create another CloudWatch Events rule with an event pattern matching Trusted Advisor events and a target Lambda function
- F. In the target Lambda function, notify the Senior Manager.
- G. Deploy an AWS Lambda function that refreshes AWS Personal Health Dashboard checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically
- H. Create another CloudWatch Events rule with an event pattern matching Personal Health Dashboard events and a target Lambda function

- I. In the target Lambda function, notify the Senior Manager.
- J. Add an AWS Config custom rule that runs periodically, checks the AWS service limit status, and streams notifications to an Amazon SNS topic.
- K. Deploy an AWS Lambda function that notifies the Senior Manager, and subscribe the Lambda function to the SNS topic.

**Answer: B**

**Explanation:**

To meet the requirements, the company needs to create a solution that alerts the Senior Manager when the creation of resources approaches the service limits for the account with the least amount of development effort. The company can use AWS Trusted Advisor, which is a service that provides best practice recommendations for cost optimization, performance, security, and service limits. The company can deploy an AWS Lambda function that refreshes Trusted Advisor checks, and configure an Amazon CloudWatch Events rule to run the Lambda function periodically. This will ensure that Trusted Advisor checks are up to date and reflect the current state of the account. The company can then create another CloudWatch Events rule with an event pattern matching Trusted Advisor events and a target Lambda function. The event pattern can filter for events related to service limit checks and their status. The target Lambda function can notify the Senior Manager via a third-party API call if the event indicates that the account is approaching or exceeding a service limit.

**NEW QUESTION 75**

A company provides an application to customers. The application has an Amazon API Gateway REST API that invokes an AWS Lambda function. On initialization, the Lambda function loads a large amount of data from an Amazon DynamoDB table. The data load process results in long cold-start times of 8-10 seconds. The DynamoDB table has DynamoDB Accelerator (DAX) configured.

Customers report that the application intermittently takes a long time to respond to requests. The application receives thousands of requests throughout the day. In the middle of the day, the application experiences 10 times more requests than at any other time of the day. Near the end of the day, the application's request volume decreases to 10% of its normal total.

A DevOps engineer needs to reduce the latency of the Lambda function at all times of the day.

Which solution will meet these requirements?

- A. Configure provisioned concurrency on the Lambda function with a concurrency value of 1. Delete the DAX cluster for the DynamoDB table.
- B. Configure reserved concurrency on the Lambda function with a concurrency value of 0.
- C. Configure provisioned concurrency on the Lambda function.
- D. Configure AWS Application Auto Scaling on the Lambda function with provisioned concurrency values set to a minimum of 1 and a maximum of 100.
- E. Configure reserved concurrency on the Lambda function.
- F. Configure AWS Application Auto Scaling on the API Gateway API with a reserved concurrency maximum value of 100.

**Answer: C**

**Explanation:**

The following are the steps that the DevOps engineer should take to reduce the latency of the Lambda function at all times of the day:

? Configure provisioned concurrency on the Lambda function.

? Configure AWS Application Auto Scaling on the Lambda function with provisioned concurrency values set to a minimum of 1 and a maximum of 100.

The provisioned concurrency setting ensures that there is always a minimum number of Lambda function instances available to handle requests. The Application Auto Scaling setting will automatically scale the number of Lambda function instances up or down based on the demand for the application.

This solution will ensure that the Lambda function is able to handle the increased load during the middle of the day, while also keeping the cold-start latency low.

The following are the reasons why the other options are not correct:

? Option A is incorrect because it will not reduce the cold-start latency of the Lambda function.

? Option B is incorrect because it will not scale the number of Lambda function instances up or down based on demand.

? Option D is incorrect because it will only configure reserved concurrency on the API Gateway API, which will not affect the Lambda function.

**NEW QUESTION 78**

A company's application teams use AWS CodeCommit repositories for their applications.

The application teams have repositories in multiple AWS accounts. All accounts are in an organization in AWS Organizations.

Each application team uses AWS IAM Identity Center (AWS Single Sign-On) configured with an external IdP to assume a developer IAM role. The developer role allows the application teams to use Git to work with the code in the repositories.

A security audit reveals that the application teams can modify the main branch in any repository. A DevOps engineer must implement a solution that allows the application teams to modify the main branch of only the repositories that they manage.

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

- A. Update the SAML assertion to pass the user's team name.
- B. Update the IAM role's trust policy to add an access-team session tag that has the team name.
- C. Create an approval rule template for each team in the Organizations management account.
- D. Associate the template with all the repositories.
- E. Add the developer role ARN as an approver.
- F. Create an approval rule template for each account.
- G. Associate the template with all repositories.
- H. Add the "aws:ResourceTag/access-team": "\$ ; {aws:PrincipalTag/access-team}" condition to the approval rule template.
- I. For each CodeCommit repository, add an access-team tag that has the value set to the name of the associated team.
- J. Attach an SCP to the account.
- K. Include the following statement:



```
{
  "Effect": "Deny",
  "Action": [
    "codecommit:GitPush",
    "codecommit:PutFile",
    "codecommit:Merge*"
  ],
  "Resource": "*",
  "Condition": {
    "StringEqualsIfExists": {
      "codecommit:References": ["refs/heads/main"]
    },
    "StringNotEquals": {
      "aws:ResourceTag/access-team": "$ ;{aws:PrincipalTag/access-team}"
    },
    "Null": {
      "codecommit:References": "false"
    }
  }
}
```

L. Create an IAM permissions boundary in each account

M. Include the following statement: {

```
  "Effect": "Allow",
  "Action": [
    "codecommit:GitPush",
    "codecommit:PutFile",
    "codecommit:Merge*"
  ],
  "Resource": "*",
  "Condition": {
    "StringEqualsIfExists": {
      "codecommit:References": ["refs/heads/main"]
    },
    "StringNotEquals": {
      "aws:ResourceTag/access-team": "$ ;{aws:PrincipalTag/access-team}"
    },
    "Null": {
      "codecommit:References": "false"
    }
  }
}
```

**Answer:** ADF

#### Explanation:

Short Explanation: To meet the requirements, the DevOps engineer should update the SAML assertion to pass the user's team name, update the IAM role's trust policy to add an access-team session tag that has the team name, create an IAM permissions boundary in each account, and for each CodeCommit repository, add an access-team tag that has the value set to the name of the associated team.

References:

? Updating the SAML assertion to pass the user's team name allows the DevOps engineer to use IAM tags to identify which team a user belongs to. This can help enforce fine-grained access control based on the user's team membership1.

? Updating the IAM role's trust policy to add an access-team session tag that has the team name allows the DevOps engineer to use IAM condition keys to restrict access based on the session tag value2. For example, the DevOps engineer can use the aws:PrincipalTag condition key to match the access-team tag of the user with the access-team tag of the repository3.

? Creating an IAM permissions boundary in each account allows the DevOps engineer to set the maximum permissions that an identity-based policy can grant to an IAM entity. An entity's permissions boundary allows it to perform only the actions that are allowed by both its identity-based policies and its permissions boundaries4. For example, the DevOps engineer can use a permissions boundary policy to limit the actions that a user can perform on CodeCommit repositories based on their access-team tag5.

? For each CodeCommit repository, adding an access-team tag that has the value set to the name of the associated team allows the DevOps engineer to use resource tags to identify which team manages a repository. This can help enforce fine-grained access control based on the resource tag value6.

? The other options are incorrect because:

#### NEW QUESTION 81

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 ne

- 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 organizatio
- F. In each of the microservice VPC
- 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 82**

A media company has several thousand Amazon EC2 instances in an AWS account. The company is using Slack and a shared email inbox for team communications and important updates. A DevOps engineer needs to send all AWS-scheduled EC2 maintenance notifications to the Slack channel and the shared inbox. The solution must include the instances' Name and Owner tags. Which solution will meet these requirements?

- A. Integrate AWS Trusted Advisor with AWS Config Configure a custom AWS Config rule to invoke an AWS Lambda function to publish notifications to an Amazon Simple Notification Service (Amazon SNS) topic Subscribe a Slack channel endpoint and the shared inbox to the topic.
- B. Use Amazon EventBridge to monitor for AWS Health Events Configure the maintenance events to target an Amazon Simple Notification Service (Amazon SNS) topic Subscribe an AWS Lambda function to the SNS topic to send notifications to the Slack channel and the shared inbox.
- C. Create an AWS Lambda function that sends EC2 maintenance notifications to the Slack channel and the shared inbox Monitor EC2 health events by using Amazon CloudWatch metrics Configure a CloudWatch alarm that invokes the Lambda function when a maintenance notification is received.
- D. Configure AWS Support integration with AWS CloudTrail Create a CloudTrail lookup event to invoke an AWS Lambda function to pass EC2 maintenance notifications to Amazon Simple Notification Service (Amazon SNS) Configure Amazon SNS to target the Slack channel and the shared inbox.

**Answer: B**

**Explanation:**

<https://docs.aws.amazon.com/health/latest/ug/cloudwatch-events-health.html>

**NEW QUESTION 86**

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 delete
- 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 89**

A DevOps engineer is working on a project that is hosted on Amazon Linux and has failed a security review. The DevOps manager has been asked to review the company buildspec.yaml file for an AWS CodeBuild project and provide recommendations. The buildspec. yaml file is configured as follows:

```
env:
  variables:
    AWS_ACCESS_KEY_ID: AKIAJF7BRFWJBA4GHXNA
    AWS_SECRET_ACCESS_KEY: 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
    AWS_DEFAULT_REGION: us-east-1
    DB_PASSWORD: cuj5RptFa3va
  phases:
    build:
      commands:
        - aws s3 cp s3://db-deploy-bucket/my.cnf.template /tmp/my.cnf
        - sed -i '' s/DB_PW/${DB_PASSWORD}/ /tmp/my.cnf
        - aws s3 cp s3://db-deploy-bucket/instance.key /tmp/instance.key
        - chmod 600 /tmp/instance.key
        - scp -i /tmp/instance.key /tmp/my.cnf root@10.25.15.23:/etc/my.cnf
        - ssh -i /tmp/instance.key root@10.25.15.23 /etc/init.d/mysqld restart
```

What changes should be recommended to comply with AWS security best practices? (Select THREE.)

- A. Add a post-build command to remove the temporary files from the container before termination to ensure they cannot be seen by other CodeBuild users.
- B. Update the CodeBuild project role with the necessary permissions and then remove the AWS credentials from the environment variable.
- C. Store the db\_password as a SecureString value in AWS Systems Manager Parameter Store and then remove the db\_password from the environment variables.
- D. Move the environment variables to the 'db.-deploy-bucket' Amazon S3 bucket, add a prebuild stage to download then export the variables.
- E. Use AWS Systems Manager run command versus sec and ssh commands directly to the instance.

**Answer:** BCE

**Explanation:**

B. Update the CodeBuild project role with the necessary permissions and then remove the AWS credentials from the environment variable. C. Store the DB\_PASSWORD as a SecureString value in AWS Systems Manager Parameter Store and then remove the DB\_PASSWORD from the environment variables. E. Use AWS Systems Manager run command versus scp and ssh commands directly to the instance.

**NEW QUESTION 94**

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 1AM user that is attached to the AdministratorAccess 1AM 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 1AM policy to the 1AM 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 98**

A company runs its container workloads in AWS App Runner. A DevOps engineer manages the company's container repository in Amazon Elastic Container Registry (Amazon ECR).

The DevOps engineer must implement a solution that continuously monitors the container repository. The solution must create a new container image when the solution detects an operating system vulnerability or language package vulnerability.

Which solution will meet these requirements?

- A. Use EC2 Image Builder to create a container image pipeline
- B. Use Amazon ECR as the target repository
- C. Turn on enhanced scanning on the ECR repository
- D. Create an Amazon EventBridge rule to capture an Inspector2 finding even
- E. Use the event to invoke the image pipeline
- F. Re-upload the container to the repository.
- G. Use EC2 Image Builder to create a container image pipeline
- H. Use Amazon ECR as the target repository
- I. Enable Amazon GuardDuty Malware Protection on the container workload
- J. Create an Amazon EventBridge rule to capture a GuardDuty finding even
- K. Use the event to invoke the image pipeline.
- L. Create an AWS CodeBuild project to create a container image
- M. Use Amazon ECR as the target repository
- N. Turn on basic scanning on the repository
- O. Create an Amazon EventBridge rule to capture an ECR image action even
- P. Use the event to invoke the CodeBuild project
- Q. Re-upload the container to the repository.
- R. Create an AWS CodeBuild project to create a container image
- S. Use Amazon ECR as the target repository
- T. Configure AWS Systems Manager Compliance to scan all managed nodes
- . Create an Amazon EventBridge rule to capture a configuration compliance state change even
- . Use the event to invoke the CodeBuild project.

**Answer:** A

**Explanation:**

The solution that meets the requirements is to use EC2 Image Builder to create a container image pipeline, use Amazon ECR as the target repository, turn on enhanced scanning on the ECR repository, create an Amazon EventBridge rule to capture an Inspector2 finding event, and use the event to invoke the image pipeline. Re-upload the container to the repository.

This solution will continuously monitor the container repository for vulnerabilities using enhanced scanning, which is a feature of Amazon ECR that provides detailed information and guidance on how to fix security issues found in your container images. Enhanced scanning uses Inspector2, a security assessment service that integrates with Amazon ECR and generates findings for any vulnerabilities detected in your images. You can use Amazon EventBridge to create a rule



that triggers an action when an Inspector2 finding event occurs. The action can be to invoke an EC2 Image Builder pipeline, which is a service that automates the creation of container images. The pipeline can use the latest patches and updates to build a new container image and upload it to the same ECR repository, replacing the vulnerable image.

The other options are not correct because they do not meet all the requirements or use services that are not relevant for the scenario.

Option B is not correct because it uses Amazon GuardDuty Malware Protection, which is a feature of GuardDuty that detects malicious activity and unauthorized behavior on your AWS accounts and resources. GuardDuty does not scan container images for vulnerabilities, nor does it integrate with Amazon ECR or EC2 Image Builder.

Option C is not correct because it uses basic scanning on the ECR repository, which only provides a summary of the vulnerabilities found in your container images. Basic scanning does not use Inspector2 or generate findings that can be captured by Amazon EventBridge. Moreover, basic scanning does not provide guidance on how to fix the vulnerabilities.

Option D is not correct because it uses AWS Systems Manager Compliance, which is a feature of Systems Manager that helps you monitor and manage the compliance status of your AWS resources based on AWS Config rules and AWS Security Hub standards. Systems Manager Compliance does not scan container images for vulnerabilities, nor does it integrate with Amazon ECR or EC2 Image Builder.

#### NEW QUESTION 99

A company has an application that is using a MySQL-compatible Amazon Aurora Multi-AZ DB cluster as the database. A cross-Region read replica has been created for disaster recovery purposes. A DevOps engineer wants to automate the promotion of the replica so it becomes the primary database instance in the event of a failure.

Which solution will accomplish this?

- A. Configure a latency-based Amazon Route 53 CNAME with health checks so it points to both the primary and replica endpoint
- B. Subscribe an Amazon SNS topic to Amazon RDS failure notifications from AWS CloudTrail and use that topic to invoke an AWS Lambda function that will promote the replica instance as the primary.
- C. Create an Aurora custom endpoint to point to the primary database instance
- D. Configure the application to use this endpoint
- E. Configure AWS CloudTrail to run an AWS Lambda function to promote the replica instance and modify the custom endpoint to point to the newly promoted instance.
- F. Create an AWS Lambda function to modify the application's AWS CloudFormation template to promote the replica, apply the template to update the stack, and point the application to the newly promoted instance
- G. Create an Amazon CloudWatch alarm to invoke this Lambda function after the failure event occurs.
- H. Store the Aurora endpoint in AWS Systems Manager Parameter Store
- I. Create an Amazon EventBridge event that detects the database failure and runs an AWS Lambda function to promote the replica instance and update the endpoint URL stored in AWS Systems Manager Parameter Store
- J. Code the application to reload the endpoint from Parameter Store if a database connection fails.

**Answer: D**

#### Explanation:

EventBridge is needed to detect the database failure. Lambda is needed to promote the replica as it's in another Region (manual promotion, otherwise). Storing and updating the endpoint in Parameter Store is important in updating the application. Look at High Availability section of Aurora FAQ:  
<https://aws.amazon.com/rds/aurora/faqs/>

#### NEW QUESTION 100

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 104

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 107**

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 109**

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 profil
- F. Attach the IAM role to the profile.
- G. Update the launch templat
- 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 110**

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 organizatio
- D. Create an SCP to prevent users from modifying VPC flow logs.
- E. Turn on AWS Confi
- F. Create an AWS Config rule to check whether VPC flow logs are turned o
- 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 log
- 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 113

A DevOps engineer is building a continuous deployment pipeline for a serverless application that uses AWS Lambda functions. The company wants to reduce the customer impact of an unsuccessful deployment. The company also wants to monitor for issues.

Which deploy stage configuration will meet these requirements?

- A. Use an AWS Serverless Application Model (AWS SAM) template to define the serverless applicatio
- B. Use AWS CodeDeploy to deploy the Lambda functions with the Canary10Percent15Minutes Deployment Preference Typ
- C. Use Amazon CloudWatch alarms to monitor the health of the functions.
- D. Use AWS CloudFormation to publish a new stack update, and include Amazon CloudWatch alarms on all resource
- E. Set up an AWS CodePipeline approval action for a developer to verify and approve the AWS CloudFormation change set.
- F. Use AWS CloudFormation to publish a new version on every stack update, and include Amazon CloudWatch alarms on all resource
- G. Use the RoutingConfig property of the AWS::Lambda::Alias resource to update the traffic routing during the stack update.
- H. Use AWS CodeBuild to add sample event payloads for testing to the Lambda function
- I. Publish a new version of the functions, and include Amazon CloudWatch alarm
- J. Update the production alias to point to the new versio
- K. Configure rollbacks to occur when an alarm is in the ALARM state.

**Answer: D**

#### Explanation:

Use routing configuration on an alias to send a portion of traffic to a second function version. For example, you can reduce the risk of deploying a new version by configuring the alias to send most of the traffic to the existing version, and only a small percentage of traffic to the new version.

<https://docs.aws.amazon.com/lambda/latest/dg/configuration-aliases.html>

The following are the steps involved in the deploy stage configuration that will meet the requirements:

? Use AWS CodeBuild to add sample event payloads for testing to the Lambda functions.

? Publish a new version of the functions, and include Amazon CloudWatch alarms.

? Update the production alias to point to the new version.

? Configure rollbacks to occur when an alarm is in the ALARM state.

This configuration will help to reduce the customer impact of an unsuccessful deployment

by deploying the new version of the functions to a staging environment first. This will allow the DevOps engineer to test the new version of the functions before deploying it to production.

The configuration will also help to monitor for issues by including Amazon CloudWatch alarms. These alarms will alert the DevOps engineer if there are any problems with the new version of the functions.

#### NEW QUESTION 115

A company is deploying a new application that uses Amazon EC2 instances. The company needs a solution to query application logs and AWS account API activity Which solution will meet these requirements?

- A. Use the Amazon CloudWatch agent to send logs from the EC2 instances to Amazon CloudWatch Logs Configure AWS CloudTrail to deliver the API logs to Amazon S3 Use CloudWatch to query both sets of logs.
- B. Use the Amazon CloudWatch agent to send logs from the EC2 instances to Amazon CloudWatch Logs Configure AWS CloudTrail to deliver the API logs to CloudWatch Logs Use CloudWatch Logs Insights to query both sets of logs.
- C. Use the Amazon CloudWatch agent to send logs from the EC2 instances to Amazon Kinesis Configure AWS CloudTrail to deliver the API logs to Kinesis Use Kinesis to load the data into Amazon Redshift Use Amazon Redshift to query both sets of logs.
- D. Use the Amazon CloudWatch agent to send logs from the EC2 instances to Amazon S3 Use AWS CloudTrail to deliver the API logs to Amazon S3 Use Amazon Athena to query both sets of logs in Amazon S3.

**Answer: D**

#### Explanation:

This solution will meet the requirements because it will use Amazon S3 as a common data lake for both the application logs and the API logs. Amazon S3 is a service that provides scalable, durable, and secure object storage for any type of data. You can use the Amazon CloudWatch agent to send logs from your EC2 instances to S3 buckets, and use AWS CloudTrail to deliver the API logs to S3 buckets as well. You can also use Amazon Athena to query both sets of logs in S3 using standard SQL, without loading or transforming them. Athena is a serverless interactive query service that allows you to analyze data in S3 using a variety of data formats, such as JSON, CSV, Parquet, and ORC.

#### NEW QUESTION 119

A rapidly growing company wants to scale for developer demand for AWS development environments. Development environments are created manually in the AWS Management Console. The networking team uses AWS CloudFormation to manage the networking infrastructure, exporting stack output values for the Amazon VPC and all subnets. The development environments have common standards, such as Application Load Balancers, Amazon EC2 Auto Scaling groups, security groups, and Amazon DynamoDB tables.

To keep up with demand, the DevOps engineer wants to automate the creation of development environments. Because the infrastructure required to support the application is expected to grow, there must be a way to easily update the deployed infrastructure. CloudFormation will be used to create a template for the development environments.

Which approach will meet these requirements and quickly provide consistent AWS environments for developers?

- A. Use Fn::ImportValue intrinsic functions in the Resources section of the template to retrieve Virtual Private Cloud (VPC) and subnet value
- B. Use CloudFormation StackSets for the development environments, using the Count input parameter to indicate the number of environments neede
- C. Use the UpdateStackSet command to update existing development environments.
- D. Use nested stacks to define common infrastructure component
- E. To access the exported values, use TemplateURL to reference the networking team's templat
- F. To retrieve Virtual Private Cloud (VPC) and subnet values, use Fn::ImportValue intrinsic functions in the Parameters section of the root templat
- G. Use the CreateChangeSet and ExecuteChangeSet commands to update existing development environments.
- H. Use nested stacks to define common infrastructure component
- I. Use Fn::ImportValue intrinsic functions with the resources of the nested stack to retrieve Virtual Private Cloud (VPC) and subnet value
- J. Use the CreateChangeSet and ExecuteChangeSet commands to update existing development environments.
- K. Use Fn::ImportValue intrinsic functions in the Parameters section of the root template to retrieve Virtual Private Cloud (VPC) and subnet value
- L. Define the development resources in the order they need to be created in the CloudFormation nested stack
- M. Use the CreateChangeSe

N. and ExecuteChangeSet commands to update existing development environments.

**Answer:** C

**Explanation:**

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.html>

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.html> CF of network exports the VPC, subnet or needed information CF of application imports the above information to its stack and UpdateChangeSet/ ExecuteChangeSet

#### NEW QUESTION 122

A company is hosting a web application in an AWS Region. For disaster recovery purposes, a second region is being used as a standby. Disaster recovery requirements state that session data must be replicated between regions in near-real time and 1% of requests should route to the secondary region to continuously verify system functionality. Additionally, if there is a disruption in service in the main region, traffic should be automatically routed to the secondary region, and the secondary region must be able to scale up to handle all traffic.

How should a DevOps engineer meet these requirements?

- A. In both regions, deploy the application on AWS Elastic Beanstalk and use Amazon DynamoDB global tables for session data
- B. Use an Amazon Route 53 weighted routing policy with health checks to distribute the traffic across the regions.
- C. In both regions, launch the application in Auto Scaling groups and use DynamoDB for session data
- D. Use a Route 53 failover routing policy with health checks to distribute the traffic across the regions.
- E. In both regions, deploy the application in AWS Lambda, exposed by Amazon API Gateway, and use Amazon RDS for PostgreSQL with cross-region replication for session data
- F. Deploy the web application with client-side logic to call the API Gateway directly.
- G. In both regions, launch the application in Auto Scaling groups and use DynamoDB global tables for session data
- H. Enable an Amazon CloudFront weighted distribution across region
- I. Point the Amazon Route 53 DNS record at the CloudFront distribution.

**Answer:** D

#### NEW QUESTION 123

A company uses AWS CodeArtifact to centrally store Python packages. The CodeArtifact repository is configured with the following repository policy.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Action": [
        "codeartifact:DescribePackageVersion",
        "codeartifact:DescribeRepository",
        "codeartifact:GetPackageVersionReadme",
        "codeartifact:GetRepositoryEndpoint",
        "codeartifact:ListPackageVersionAssets",
        "codeartifact:ListPackageVersionDependencies",
        "codeartifact:ListPackageVersions",
        "codeartifact:ListPackages",
        "codeartifact:ReadFromRepository"
      ],
      "Effect": "Allow",
      "Resource": "*",
      "Principal": "*",
      "Condition": {
        "StringEquals": {
          "aws:PrincipalOrgID": [
            "o-xxxxxxxxxxxx"
          ]
        }
      }
    }
  ]
}
```

A development team is building a new project in an account that is in an organization in AWS Organizations. The development team wants to use a Python library that has already been stored in the CodeArtifact repository in the organization. The development team uses AWS CodePipeline and AWS CodeBuild to build the new application. The CodeBuild job that the development team uses to build the application is configured to run in a VPC. Because of compliance requirements the VPC has no internet connectivity.

The development team creates the VPC endpoints for CodeArtifact and updates the CodeBuild buildspec yaml file. However, the development team cannot download the Python library from the repository.

Which combination of steps should a DevOps engineer take so that the development team can use Code Artifact? (Select TWO.)

- A. Create an Amazon S3 gateway endpoint. Update the route tables for the subnets that are running the CodeBuild job.
- B. Update the repository policy's Principal statement to include the ARN of the role that the CodeBuild project uses.
- C. Share the CodeArtifact repository with the organization by using AWS Resource Access Manager (AWS RAM).
- D. Update the role that the CodeBuild project uses so that the role has sufficient permissions to use the CodeArtifact repository.
- E. Specify the account that hosts the repository as the delegated administrator for CodeArtifact in the organization.

**Answer:** AD

**Explanation:**

"AWS CodeArtifact operates in multiple Availability Zones and stores artifact data and metadata in Amazon S3 and Amazon DynamoDB. Your encrypted data is redundantly stored across multiple facilities and multiple devices in each facility, making it highly available and highly durable."  
<https://aws.amazon.com/codeartifact/features/> With no internet connectivity, a gateway endpoint becomes necessary to access S3.

**NEW QUESTION 124**

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