# Amazon-Web-Services

## Exam Questions DOP-C02

AWS Certified DevOps Engineer - Professional

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**NEW QUESTION 1**
A company deploys a web application on Amazon EC2 instances that are behind an
Application Load Balancer (ALB). The company stores the application code in an AWS CodeCommit repository. When code is merged to the main branch, an AWS Lambda function invokes an AWS CodeBuild project. The CodeBuild project packages the code, stores the packaged code in AWS CodeArtifact, and invokes AWS Systems Manager Run Command to deploy the packaged code to the EC2 instances.
Previous deployments have resulted in defects, EC2 instances that are not running the latest version of the packaged code, and inconsistencies between instances.
Which combination of actions should a DevOps engineer take to implement a more reliable deployment solution? (Select TWO.)

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

**Answer:** AC

**Explanation:**
To implement a more reliable deployment solution, a DevOps engineer should take the following actions:
? Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provider. Configure pipeline stages that run the CodeBuild project in parallel to build and test the application. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action. This action will improve the deployment reliability by automating the entire process from code commit to deployment, reducing human errors and inconsistencies. By running the build and test stages in parallel, the pipeline can also speed up the delivery time and provide faster feedback. By using CodeDeploy as the deployment action, the pipeline can leverage the features of CodeDeploy, such as traffic shifting, health checks, rollback, and deployment configuration123
? Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instances. Configure the ALB for the deployment group. This action will improve the deployment reliability by using CodeDeploy to orchestrate the deployment across multiple EC2 instances behind an ALB. CodeDeploy can perform blue/green deployments or in-place deployments with traffic shifting, which can minimize downtime and reduce risks. CodeDeploy can also monitor the health of the instances during and after the deployment, and automatically roll back if any issues are detected. By configuring the ALB for the deployment group, CodeDeploy can register and deregister instances from the load balancer as needed, ensuring that only healthy instances receive traffic45
The other options are not correct because they do not improve the deployment reliability or follow best practices. Creating separate pipeline stages that run a CodeBuild project to build and then test the application is not a good option because it will increase the pipeline execution time and delay the feedback loop. Creating individual Lambda functions that use CodeDeploy instead of Systems Manager to run build, test, and deploy actions is not a valid option because it will add unnecessary complexity and cost to the solution. Lambda functions are not designed for long-running tasks such as building or deploying applications. Creating an Amazon S3 bucket and modifying the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifact is not a necessary option because it will not affect the deployment reliability. CodeArtifact is a secure, scalable, and cost- effective package management service that can store and share software packages for application development67
References:
? 1: What is AWS CodePipeline? - AWS CodePipeline
? 2: Create a pipeline in AWS CodePipeline - AWS CodePipeline
? 3: Deploy an application with AWS CodeDeploy - AWS CodePipeline
? 4: What is AWS CodeDeploy? - AWS CodeDeploy
? 5: Configure an Application Load Balancer for your blue/green deployments - AWS CodeDeploy
? 6: What is AWS Lambda? - AWS Lambda
? 7: What is AWS CodeArtifact? - AWS CodeArtifact

**NEW QUESTION 2**
A DevOps engineer is building an application that uses an AWS Lambda function to query an Amazon Aurora MySQL DB cluster. The Lambda function performs only read queries. Amazon EventBridge events invoke the Lambda function.
As more events invoke the Lambda function each second, the database's latency increases and the database's throughput decreases. The DevOps engineer needs to improve the performance of the application.
Which combination of steps will meet these requirements? (Select THREE.)

A. Use Amazon RDS Proxy to create a prox
B. Connect the proxy to the Aurora cluster reader endpoin
C. Set a maximum connections percentage on the proxy.
D. Implement database connection pooling inside the Lambda cod
E. Set a maximum number of connections on the database connection pool.
F. Implement the database connection opening outside the Lambda event handler code.
G. Implement the database connection opening and closing inside the Lambda event handler code.
H. Connect to the proxy endpoint from the Lambda function.
I. Connect to the Aurora cluster endpoint from the Lambda function.

**Answer:** ACE

**Explanation:**
To improve the performance of the application, the DevOps engineer should use Amazon RDS Proxy, implement the database connection opening outside the Lambda event handler code, and connect to the proxy endpoint from the Lambda function. References:
? Amazon RDS Proxy is a fully managed, highly available database proxy for Amazon Relational Database Service (RDS) that makes applications more scalable, more resilient to database failures, and more secure1. By using Amazon RDS Proxy, the DevOps engineer can reduce the overhead of opening and closing connections to the database, which can improve latency and throughput2.
? The DevOps engineer should connect the proxy to the Aurora cluster reader
endpoint, which allows read-only connections to one of the Aurora Replicas in the DB cluster3. This can help balance the load across multiple read replicas and improve performance for read-intensive workloads4.

? The DevOps engineer should implement the database connection opening outside the Lambda event handler code, which means using a global variable to store the database connection object5. This can enable connection reuse across multiple invocations of the Lambda function, which can reduce latency and improve performance.
? The DevOps engineer should connect to the proxy endpoint from the Lambda function, which is a unique URL that represents the proxy. This can allow the Lambda function to access the database through the proxy, which can provide benefits such as connection pooling, load balancing, failover handling, and enhanced security.
? The other options are incorrect because:

**NEW QUESTION 3**
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 4**
A company wants to set up a continuous delivery pipeline. The company stores application code in a private GitHub repository. The company needs to deploy the application components to Amazon Elastic Container Service (Amazon ECS). Amazon EC2, and AWS Lambda. The pipeline must support manual approval actions.
Which solution will meet these requirements?

A. Use AWS CodePipeline with Amazon EC
B. Amazon EC2, and Lambda as deploy providers.
C. Use AWS CodePipeline with AWS CodeDeploy as the deploy provider.
D. Use AWS CodePipeline with AWS Elastic Beanstalk as the deploy provider.
E. Use AWS CodeDeploy with GitHub integration to deploy the application.

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/codedeploy/latest/userguide/deployment- steps.html

**NEW QUESTION 5**
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 tor 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 Cloud Formation 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 m 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 Configure 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 System Manager.

**NEW QUESTION 6**
A company has a new AWS account that teams will use to deploy various applications. The teams will create many Amazon S3 buckets for application- specific purposes and to store AWS CloudTrail logs. The company has enabled Amazon Macie for the account.
A DevOps engineer needs to optimize the Macie costs for the account without compromising the account's functionality.
Which solutions will meet these requirements? (Select TWO.)

A. Exclude S3 buckets that contain CloudTrail logs from automated discovery.
B. Exclude S3 buckets that have public read access from automated discovery.
C. Configure scheduled daily discovery jobs for all S3 buckets in the account.
D. Configure discovery jobs to include S3 objects based on the last modified criterion.
E. Configure discovery jobs to include S3 objects that are tagged as production only.

**Answer:** AD

**Explanation:**
To optimize the Macie costs for the account without compromising the account’s functionality, the DevOps engineer needs to exclude S3 buckets that do not contain sensitive data from automated discovery. S3 buckets that contain CloudTrail logs are unlikely to have sensitive data, and Macie charges for scanning and monitoring data in S3 buckets. Therefore, excluding S3 buckets that contain CloudTrail logs from automated discovery can reduce Macie costs. Similarly, configuring discovery jobs to include S3 objects based on the last modified criterion can also reduce Macie costs, as it will only scan and monitor new or updated objects, rather than all objects in the bucket.

**NEW QUESTION 7**
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 rol
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 I
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 accoun
G. Attach a trust policy that allows logs.amazonaws.com to perform the iam:CreateSink action if the aws:PrincipalOrgld 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 sin
J. Allow logs to be shared with the monitoring accoun
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 8**
A production account has a requirement that any Amazon EC2 instance that has been logged in to manually must be terminated within 24 hours. All applications in the production account are using Auto Scaling groups with the Amazon CloudWatch Logs agent configured.
How can this process be automated?

A. Create a CloudWatch Logs subscription to an AWS Step Functions applicatio
B. Configure an AWS Lambda function to add a tag to the EC2 instance that produced the login event and mark the instance to be decommissione
C. Create an Amazon EventBridge rule to invoke a second Lambda function once a day that will terminate all instances with this tag.
D. Create an Amazon CloudWatch alarm that will be invoked by the login even
E. Send the notification to an Amazon Simple Notification Service (Amazon SNS) topic that the operations team is subscribed to, and have them terminate the EC2 instance within 24 hours.

F. Create an Amazon CloudWatch alarm that will be invoked by the login even
G. Configure the alarm to send to an Amazon Simple Queue Service (Amazon SQS) queu
H. Use agroup of worker instances to process messages from the queue, which then schedules an Amazon EventBridge rule to be invoked.
I. Create a CloudWatch Logs subscription to an AWS Lambda functio
J. Configure the function to add a tag to the EC2 instance that produced the login event and mark the instance to be decommissione
K. Create an Amazon EventBridge rule to invoke a daily Lambda function that terminates all instances with this tag.

**Answer:** D

**Explanation:**
"You can use subscriptions to get access to a real-time feed of log events from CloudWatch Logs and have it delivered to other services such as an Amazon Kinesis stream, an Amazon Kinesis Data Firehose stream, or AWS Lambda for custom processing, analysis, or loading to other systems. When log events are sent to the receiving service, they are Base64 encoded and compressed with the gzip format." See
https://docs.aws.amazon.com/AmazonCloudWatch/latest/logs/Subscriptions.html

**NEW QUESTION 9**
A company uses AWS CodePipeline pipelines to automate releases of its application A typical pipeline consists of three stages build, test, and deployment. The company has been using a separate AWS CodeBuild project to run scripts for each stage. However, the company now wants to use AWS CodeDeploy to handle the deployment stage of the pipelines.
The company has packaged the application as an RPM package and must deploy the application to a fleet of Amazon EC2 instances. The EC2 instances are in an EC2 Auto Scaling group and are launched from a common AMI.
Which combination of steps should a DevOps engineer perform to meet these requirements? (Choose two.)

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

**Answer:** AD

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

**NEW QUESTION 10**
A company manages multiple AWS accounts by using AWS Organizations with OUS for the different business divisions, The company is updating their corporate network to use new IP address ranges. The company has 10 Amazon S3 buckets in different AWS accounts. The S3 buckets store reports for the different divisions. The S3 bucket configurations allow only private corporate network IP addresses to access the S3 buckets.
A DevOps engineer needs to change the range of IP addresses that have permission to access the contents of the S3 buckets The DevOps engineer also needs to revoke the permissions of two OUS in the company
Which solution will meet these requirements?

A. Create a new SCP that has two statements, one that allows access to the new range of IP addresses for all the S3 buckets and one that demes access to the old range of IP addresses for all the S3 bucket
B. Set a permissions boundary for the OrganzauonAccountAccessRole role In the two OUS to deny access to the S3 buckets.
C. Create a new SCP that has a statement that allows only the new range of IP addresses to access the S3 bucket
D. Create another SCP that denies access to the S3 bucket
E. Attach the second SCP to the two OUS
F. On all the S3 buckets, configure resource-based policies that allow only the new range of IP addresses to access the S3 bucket
G. Create a new SCP that denies access to the S3 bucket
H. Attach the SCP to the two OUs.
I. On all the S3 buckets, configure resource-based policies that allow only the new range of IP addresses to access the S3 bucket
J. Set a permissions boundary for the OrganizationAccountAccessRole role in the two OUS to deny access to the S3 buckets.

**Answer:** C

**Explanation:**
The correct answer is C.
A comprehensive and detailed explanation is:
? Option A is incorrect because creating a new SCP that has two statements, one that allows access to the new range of IP addresses for all the S3 buckets and one that denies access to the old range of IP addresses for all the S3 buckets, is not a valid solution. SCPs are not resource-based policies, and they cannot specify the S3 buckets or the IP addresses as resources or conditions. SCPs can only control the actions that can be performed by the principals in the organization, not the access to specific resources. Moreover, setting a permissions boundary for the OrganizationAccountAccessRole role in the two OUs to deny access to the S3 buckets is not sufficient to revoke the permissions of the two OUs, as there might be other roles or users in those OUs that can still access the S3 buckets.
? Option B is incorrect because creating a new SCP that has a statement that allows
only the new range of IP addresses to access the S3 buckets is not a valid solution, for the same reason as option A. SCPs are not resource-based policies, and they cannot specify the S3 buckets or the IP addresses as resources or conditions. Creating another SCP that denies access to the S3 buckets and attaching it to the two OUs is also not a valid solution, as SCPs cannot specify the S3 buckets as resources either.

? Option C is correct because it meets both requirements of changing the range of IP addresses that have permission to access the contents of the S3 buckets and revoking the permissions of two OUs in the company. On all the S3 buckets, configuring resource-based policies that allow only the new range of IP addresses to access the S3 buckets is a valid way to update the IP address ranges, as resource-based policies can specify both resources and conditions. Creating a new SCP that denies access to the S3 buckets and attaching it to the two OUs is also a valid way to revoke the permissions of those OUs, as SCPs can deny actions such as s3:PutObject or s3:GetObject on any resource.
? Option D is incorrect because setting a permissions boundary for the OrganizationAccountAccessRole role in the two OUs to deny access to the S3 buckets is not sufficient to revoke the permissions of the two OUs, as there might be other roles or users in those OUs that can still access the S3 buckets. A permissions boundary is a policy that defines the maximum permissions that an IAM entity can have. However, it does not revoke any existing permissions that are granted by other policies.
References:
? AWS Organizations
? S3 Bucket Policies
? Service Control Policies
? Permissions Boundaries

**NEW QUESTION 10**
A healthcare services company is concerned about the growing costs of software licensing for an application for monitoring patient wellness. The company wants to create an audit process to ensure that the application is running exclusively on Amazon EC2 Dedicated Hosts. A DevOps engineer must create a workflow to audit the application to ensure compliance.
What steps should the engineer take to meet this requirement with the LEAST administrative overhead?

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

**Answer:** C

**Explanation:**
The correct answer is C. Using AWS Config to identify and audit all EC2 instances based on their host placement configuration is the most efficient and scalable solution to ensure compliance with the software licensing requirement. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources. By creating a custom AWS Config rule that triggers a Lambda function to verify host placement, the DevOps engineer can automate the process of checking whether the instances are running on EC2 Dedicated Hosts or not. The Lambda function can return a NON_COMPLIANT result if the instance is not running on an EC2 Dedicated Host, and the AWS Config report can provide a summary of the compliance status of the instances. This solution requires the least administrative overhead compared to the other options.
Option A is incorrect because using AWS Systems Manager Configuration Compliance to scan and build a database of noncompliant EC2 instances based on their host placement configuration is a more complex and costly solution than using AWS Config. AWS Systems Manager Configuration Compliance is a feature of AWS Systems Manager that enables you to scan your managed instances for patch compliance and configuration inconsistencies. To use this feature, the DevOps engineer would need to install the Systems Manager Agent on each EC2 instance, create a State Manager association to run the put-compliance-items API action periodically, and use a DynamoDB table to store the instance IDs of noncompliant resources. This solution would also require more API calls and storage costs than using AWS Config.
Option B is incorrect because using custom Java code running on an EC2 instance to check and terminate noncompliant EC2 instances is a more cumbersome and error-prone solution than using AWS Config. This solution would require the DevOps engineer to write and maintain the Java code, set up EC2 Auto Scaling for the instance, use an SQS queue and another worker instance to process the instance IDs, use a Lambda function and an SNS topic to terminate and notify the noncompliant instances, and handle any potential failures or exceptions in the workflow. This solution would also incur more compute,
storage, and messaging costs than using AWS Config.
Option D is incorrect because using AWS CloudTrail to identify and audit EC2 instances by analyzing the EC2 RunCommand API action is a less reliable and accurate solution than using AWS Config. AWS CloudTrail is a service that enables you to monitor and log the API activity in your AWS account. The EC2 RunCommand API action is used to execute commands on one or more EC2 instances. However, this API action does not necessarily indicate the host placement of the instance, and it may not capture all the instances that are running on EC2 Dedicated Hosts or not. Therefore, option D would not provide a comprehensive and consistent audit of the EC2 instances.

**NEW QUESTION 11**
A company has multiple member accounts that are part of an organization in AWS Organizations. The security team needs to review every Amazon EC2 security group and their inbound and outbound rules. The security team wants to programmatically retrieve this information from the member accounts using an AWS Lambda function in the management account of the organization.
Which combination of access changes will meet these requirements? (Choose three.)

A. Create a trust relationship that allows users in the member accounts to assume the management account IAM role.
B. Create a trust relationship that allows users in the management account to assume the IAM roles of the member accounts.
C. Create an IAM role in each member account that has access to the AmazonEC2ReadOnlyAccess managed policy.
D. Create an I AM role in each member account to allow the sts:AssumeRole action against the management account IAM role's ARN.
E. Create an I AM role in the management account that allows the sts:AssumeRole action against the member account IAM role's ARN.
F. Create an IAM role in the management account that has access to the AmazonEC2ReadOnlyAccess managed policy.

**Answer:** BCE

**Explanation:**
https://aws.amazon.com/premiumsupport/knowledge-center/lambda-function-assume-iam-role/ https://kreuzwerker.de/post/aws-multi-account-setups-reloaded

**NEW QUESTION 14**
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 EventBrdge 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 Cloud Formation stac
B. Attach the subscription filter policy to the SNS tomc
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 ts 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 stack
E. Create a second EventBndge rule that reacts to the GuardDuty drift detection event finding for the specific CloudFormation stac
F. Configure the SNS topic as a target of the second EventBridge rule.
G. Configure AWS Config in the accoun
H. Use the cloudformation-stack-drift-detection- check managed rul
I. Create a second EventBndge rule that reacts to a compliance change event for the CloudFormaUon stac
J. Configure the SNS topc 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 17**
A DevOps engineer needs to back up sensitive Amazon S3 objects that are stored within an S3 bucket with a private bucket policy using S3 cross-Region replication functionality. The objects need to be copied to a target bucket in a different AWS Region and account.
Which combination of actions should be performed to enable this replication? (Choose three.)

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

**Answer:** ADE

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

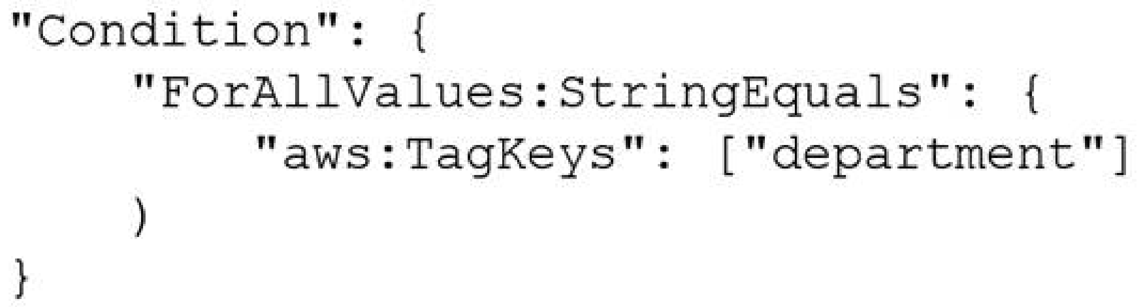
**NEW QUESTION 22**
A DevOps team manages an API running on-premises that serves as a backend for an Amazon API Gateway endpoint. Customers have been complaining about high response latencies, which the development team has verified using the API Gateway latency metrics in Amazon CloudWatch. To identify the cause, the team needs to collect relevant data without introducing additional latency.
Which actions should be taken to accomplish this? (Choose two.)

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

**Answer:** AC

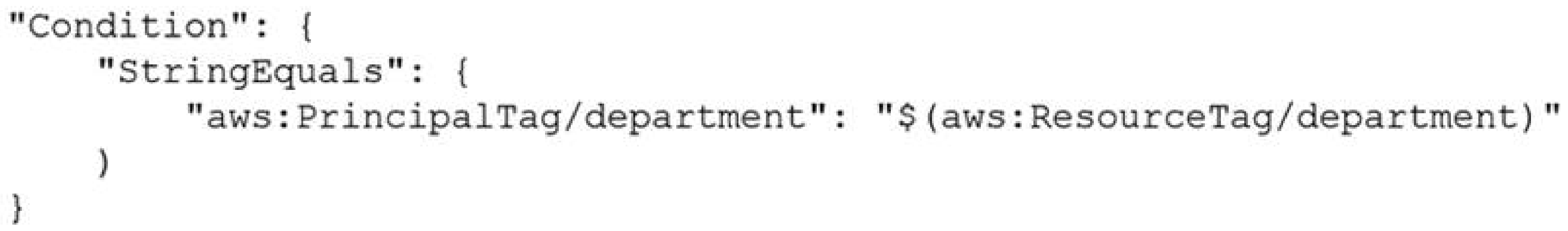
**Explanation:**
https://docs.aws.amazon.com/AmazonCloudWatch/latest/monitoring/install-CloudWatch-Agent-on-premise.html
https://docs.aws.amazon.com/xray/latest/devguide/xray-api-sendingdata.html

**NEW QUESTION 27**
A company has multiple AWS accounts. The company uses AWS IAM Identity Center (AWS Single Sign-On) that is integrated with AWS Toolkit for Microsoft Azure DevOps. The attributes for access control feature is enabled in IAM Identity Center.
The attribute mapping list contains two entries. The department key is mapped to
${path:enterprise.department}. The costCenter key is mapped to
${path:enterprise.costCenter}.
All existing Amazon EC2 instances have a department tag that corresponds to three company departments (d1, d2, d3). A DevOps engineer must create policies based on the matching attributes. The policies must minimize administrative effort and must grant each Azure AD user access to only the EC2 instances that are tagged with the user's respective department name.
Which condition key should the DevOps engineer include in the custom permissions policies to meet these requirements?
A.



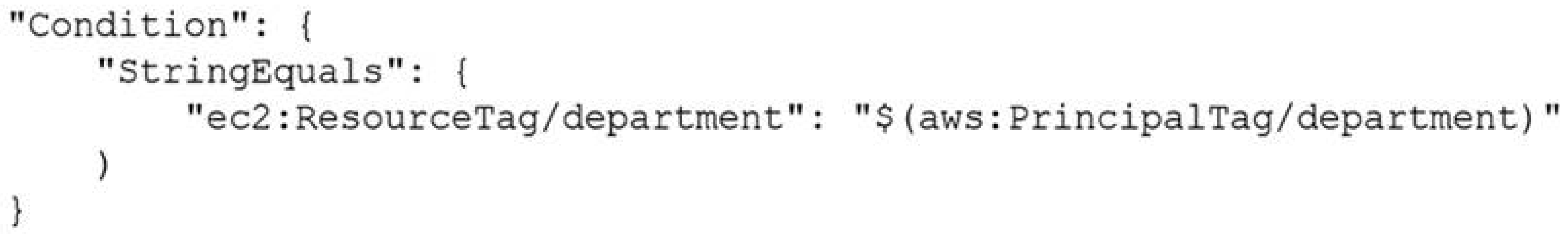
```
"Condition": {
    "ForAllValues:StringEquals": {
        "aws:TagKeys": ["department"]
    )
}
```

B.



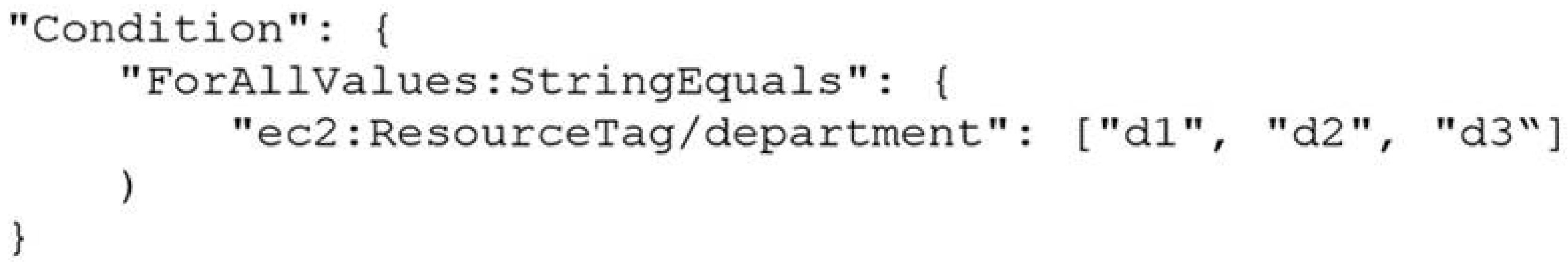
```
"Condition": {
    "StringEquals": {
        "aws:PrincipalTag/department": "$(aws:ResourceTag/department)"
    )
}
```

C.



```
"Condition": {
    "StringEquals": {
        "ec2:ResourceTag/department": "$(aws:PrincipalTag/department)"
    )
}
```

D.



```
"Condition": {
    "ForAllValues:StringEquals": {
        "ec2:ResourceTag/department": ["d1", "d2", "d3“]
    )
}
```

A.

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/singlesignon/latest/userguide/configure- abac.html

**NEW QUESTION 31**
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?

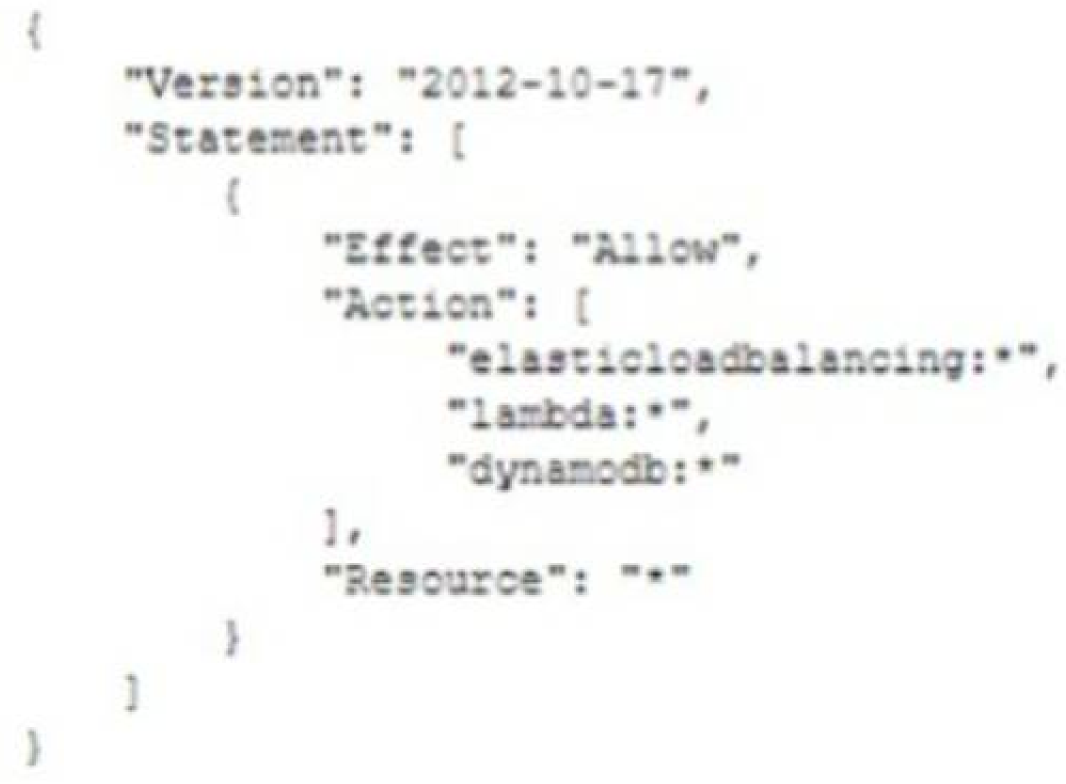
A. Set the deployment configuration in CodeDeploy to LambdaAllAtOnce Configure automatic rollbacks on the deployment group Create an Amazon CloudWatch alarm that detects HTTP Bad Gateway errors on API Gateway Configure the deployment group to roll back when the number of alarms meets the alarm threshold
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 grou
E. Create an Amazon Simple Notification Service (Amazon SNS) topc to send notifications every time a deployrnent fad
F. Configure the SNS topc 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 LambdaCanaryIOPercentIOMinutes 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 eployment 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 34**
A company's development team uses AVMS Cloud Formation to deploy its application resources The team must use for an changes to the environment The team cannot use AWS Management Console or the AWS CLI to make manual changes directly.
The team uses a developer IAM role to access the environment The role is configured with the Admnistratoraccess managed policy. The company has created a new Cloudformationdeployment IAM role that has the following policy.



```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": [
                "elasticloadbalancing:*",
                "lambda:*",
                "dynamodb:*"
            ],
            "Resource": "*"
        }
    ]
}
```

The company wants ensure that only CloudFormation can use the new role. The development team cannot make any manual changes to the deployed resources. Which combination of steps meet these requirements? (Select THREE.)

A. Remove the AdministratorAccess polic
B. Assign the ReadOnlyAccess managed IAM policy to the developer rol
C. Instruct the developers to use the CloudFormationDeployment role as a CloudFormation service role when the developers deploy new stacks.
D. Update the trust of CloudFormationDeployment role to allow the developer IAM role to assume the CloudFormationDepoyment role.
E. Configure the IAM to be to get and pass the CloudFormationDeployment role if cloudformation actions for resources,
F. Update the trust Of the CloudFormationDepoyment role to anow the cloudformation.amazonaws.com AWS principal to perform the iam:AssumeR01e action
G. Remove me Administratoraccess polic
H. Assign the ReadOnly/Access managed IAM policy to the developer role Instruct the developers to assume the CloudFormatondeployment role when the developers new stacks
I. Add an IAM policy to CloudFormationDeplyment to allow cloudformation * on an Add a policy that allows the iam.PassR01e action for ARN of if iam PassedT0Service equal cloudformation.amazonaws.com

**Answer:** ADF

**Explanation:**
A comprehensive and detailed explanation is:
? Option A is correct because removing the AdministratorAccess policy and assigning the ReadOnlyAccess managed IAM policy to the developer role is a valid way to prevent the developers from making any manual changes to the deployed resources. The AdministratorAccess policy grants full access to all AWS resources and actions, which is not necessary for the developers. The ReadOnlyAccess policy grants read-only access to most AWS resources and actions, which is sufficient for the developers to view the status of their stacks. Instructing the developers to use the CloudFormationDeployment role as a CloudFormation service role when they deploy new stacks is also a valid way to ensure that only CloudFormation can use the new role. A CloudFormation service role is an IAM role that allows CloudFormation to make calls to resources in a stack on behalf of the user1. The user can specify a service role when they create or update a stack, and

CloudFormation will use that role’s credentials for all operations that are performed on that stack1.
? Option B is incorrect because updating the trust of CloudFormationDeployment role to allow the developer IAM role to assume the CloudFormationDeployment role is not a valid solution. This would allow the developers to manually assume the CloudFormationDeployment role and perform actions on the deployed resources, which is not what the company wants. The trust of CloudFormationDeployment role should only allow the cloudformation.amazonaws.com AWS principal to assume the role, as in option D.
? Option C is incorrect because configuring the IAM user to be able to get and pass the CloudFormationDeployment role if cloudformation actions for resources is not a valid solution. This would allow the developers to manually pass the CloudFormationDeployment role to other services or resources, which is not what the company wants. The IAM user should only be able to pass the CloudFormationDeployment role as a service role when they create or update a stack with CloudFormation, as in option A.
? Option D is correct because updating the trust of CloudFormationDeployment role
to allow the cloudformation.amazonaws.com AWS principal to perform the iam:AssumeRole action is a valid solution. This allows CloudFormation to assume the CloudFormationDeployment role and access resources in other services on behalf of the user2. The trust policy of an IAM role defines which entities can assume the role2. By specifying cloudformation.amazonaws.com as the principal, you grant permission only to CloudFormation to assume this role.
? Option E is incorrect because instructing the developers to assume the
CloudFormationDeployment role when they deploy new stacks is not a valid solution. This would allow the developers to manually assume the CloudFormationDeployment role and perform actions on the deployed resources, which is not what the company wants. The developers should only use the CloudFormationDeployment role as a service role when they deploy new stacks with CloudFormation, as in option A.
? Option F is correct because adding an IAM policy to CloudFormationDeployment
that allows cloudformation:* on all resources and adding a policy that allows the iam:PassRole action for ARN of CloudFormationDeployment if iam:PassedToService equals cloudformation.amazonaws.com are valid solutions. The first policy grants permission for CloudFormationDeployment to perform any action with any resource using cloudformation.amazonaws.com as a service principal3. The second policy grants permission for passing this role only if it is passed by cloudformation.amazonaws.com as a service principal4. This ensures that only CloudFormation can use this role.
References:
? 1: AWS CloudFormation service roles
? 2: How to use trust policies with IAM roles
? 3: AWS::IAM::Policy
? 4: IAM: Pass an IAM role to a specific AWS service

**NEW QUESTION 36**
A company has 20 service learns 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 38**
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 DelelionPolicy 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 rol
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 resourc
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 43**
A DevOps engineer needs to configure a blue green deployment for an existing three-tier application. The application runs on Amazon EC2 instances and uses an Amazon RDS database The EC2 instances run behind an Application Load Balancer (ALB) and are in an Auto Scaling group.

The DevOps engineer has created a launch template and an Auto Scaling group for the blue environment. The DevOps engineer also has created a launch template and an Auto Scaling group for the green environment. Each Auto Scaling group deploys to a matching blue or green target group. The target group also specifies which software blue or green gets loaded on the EC2 instances. The ALB can be configured to send traffic to the blue environments target group or the green environments target group. An Amazon Route 53 record for www example com points to the ALB.
The deployment must move traffic all at once between the software on the blue environment's EC2 instances to the newly deployed software on the green environments EC2 instances
What should the DevOps engineer do to meet these requirements?

A. Start a rolling restart to the Auto Scaling group tor the green environment to deploy the new software on the green environment's EC2 instances When the rolling restart is complete, use an AWS CLI command to update the ALB to send traffic to the green environment's target group.
B. Use an AWS CLI command to update the ALB to send traffic to the green environment's target grou
C. Then start a rolling restart of the Auto Scaling group for the green environment to deploy the new software on the green environment's EC2 instances.
D. Update the launch template to deploy the green environment's software on the blue environment's EC2 instances Keep the target groups and Auto Scaling groups unchanged in both environments Perform a rolling restart of the blue environment's EC2 instances.
E. Start a rolling restart of the Auto Scaling group for the green environment to deploy the new software on the green environment's EC2 instances When the rolling restart is complete, update the Route 53 DNS to point to the green environments endpoint on the ALB.

**Answer:** A

**Explanation:**
This solution will meet the requirements because it will use a rolling restart to gradually replace the EC2 instances in the green environment with new instances that have the new software version installed. A rolling restart is a process that terminates and launches instances in batches, ensuring that there is always a minimum number of healthy instances in service. This way, the green environment can be updated without affecting the availability or performance of the application. When the rolling restart is complete, the DevOps engineer can use an AWS CLI command to modify the listener rules of the ALB and change the default action to forward traffic to the green environment’s target group. This will switch the traffic from the blue environment to the green environment all at once, as required by the question.

**NEW QUESTION 44**
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 pipelin
B. Use Amazon ECR as the target repositor
C. Turn on enhanced scanning on the ECR repositor
D. Create an Amazon EventBridge rule to capture an Inspector2 finding even
E. Use the event to invoke the image pipelin
F. Re-upload the container to the repository.
G. Use EC2 Image Builder to create a container image pipelin
H. Use Amazon ECR as the target repositor
I. Enable Amazon GuardDuty Malware Protection on the container workloa
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 imag
M. Use Amazon ECR as the target repositor
N. Turn on basic scanning on the repositor
O. Create an Amazon EventBridge rule to capture an ECR image action even
P. Use the event to invoke the CodeBuild projec
Q. Re-upload the container to the repository.
R. Create an AWS CodeBuild project to create a container imag
S. Use Amazon ECR as the target repositor
T. Configure AWS Systems Manager Compliance to scan all managed node
. 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 49**

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 50**
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 togs 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 54**
A company uses an organization in AWS Organizations that has all features enabled. The company uses AWS Backup in a primary account and uses an AWS Key Management Service (AWS KMS) key to encrypt the backups.
The company needs to automate a cross-account backup of the resources that AWS Backup backs up in the primary account. The company configures cross-account backup in the Organizations management account. The company creates a new AWS account in the organization and configures an AWS Backup backup vault in the new account. The company creates a KMS key in the new account to encrypt the backups. Finally, the company configures a new backup plan in the primary account. The destination for the new backup plan is the backup vault in the new account.
When the AWS Backup job in the primary account is invoked, the job creates backups in the primary account. However, the backups are not copied to the new account's backup vault.
Which combination of steps must the company take so that backups can be copied to the new account's backup vault? (Select TWO.)

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

**Answer:** AE

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

? 1: Creating backup copies across AWS accounts - AWS Backup
? 2: Using AWS Backup with AWS Organizations - AWS Backup

**NEW QUESTION 58**
A DevOps engineer has implemented a Cl/CO pipeline to deploy an AWS Cloud Format ion template that provisions a web application. The web application consists of an Application Load Balancer (ALB) a target group, a launch template that uses an Amazon Linux 2 AMI an Auto Scaling group of Amazon EC2 instances, a security group and an Amazon RDS for MySQL database The launch template includes user data that specifies a script to install and start the application.
The initial deployment of the application was successful. The DevOps engineer made changes to update the version of the application with the user data. The CI/CD pipeline has deployed a new version of the template However, the health checks on the ALB are now failing The health checks have marked all targets as unhealthy.
During investigation the DevOps engineer notices that the Cloud Formation stack has a status of UPDATE_COMPLETE. However, when the DevOps engineer connects to one of the EC2 instances and checks /varar/log messages, the DevOps engineer notices that the Apache web server failed to start successfully because of a configuration error
How can the DevOps engineer ensure that the CloudFormation deployment will fail if the user data fails to successfully finish running?

A. Use the cfn-signal helper script to signal success or failure to CloudFormation Use the WaitOnResourceSignals update policy within the CloudFormation template Set an appropriate timeout for the update policy.
B. Create an Amazon CloudWatch alarm for the UnhealthyHostCount metri
C. Include an appropriate alarm threshold for the target group Create an Amazon Simple Notification Service (Amazon SNS) topic as the target to signal success or failure to CloudFormation
D. Create a lifecycle hook on the Auto Scaling group by using the AWS AutoScaling LifecycleHook resource Create an Amazon Simple Notification Service (Amazon SNS) topic as the target to signal success or failure to CloudFormation Set an appropriate timeout on the lifecycle hook.
E. Use the Amazon CloudWatch agent to stream the cloud-init logs Create a subscription filter that includes an AWS Lambda function with an appropriate invocation timeout Configure the Lambda function to use the SignalResource API operation to signal success or failure to CloudFormation.

**Answer:** A

**Explanation:**
https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-attribute-updatepolicy.html

**NEW QUESTION 60**
A company builds a container image in an AWS CodeBuild project by running Docker commands. After the container image is built, the CodeBuild project uploads the container image to an Amazon S3 bucket. The CodeBuild project has an IAM service role that has permissions to access the S3 bucket.
A DevOps engineer needs to replace the S3 bucket with an Amazon Elastic Container Registry (Amazon ECR) repository to store the container images. The DevOps engineer creates an ECR private image repository in the same AWS Region of the CodeBuild project. The DevOps engineer adjusts the IAM service role with the permissions that are necessary to work with the new ECR repository. The DevOps engineer also places
new repository information into the docker build command and the docker push command that are used in the buildspec.yml file.
When the CodeBuild project runs a build job, the job fails when the job tries to access the ECR repository.
Which solution will resolve the issue of failed access to the ECR repository?

A. Update the buildspec.yml file to log in to the ECR repository by using the aws ecr get- login-password AWS CLI command to obtain an authentication toke
B. Update the docker login command to use the authentication token to access the ECR repository.
C. Add an environment variable of type SECRETS_MANAGER to the CodeBuild projec
D. In the environment variable, include the ARN of the CodeBuild project's IAM service rol
E. Update the buildspec.yml file to use the new environment variable to log in with the docker login command to access the ECR repository.
F. Update the ECR repository to be a public image repositor
G. Add an ECR repository policy that allows the IAM service role to have access.
H. Update the buildspec.yml file to use the AWS CLI to assume the IAM service role for ECR operation
I. Add an ECR repository policy that allows the IAM service role to have access.

**Answer:** A

**Explanation:**
Update the buildspec.yml file to log in to the ECR repository by using the aws ecr get-login- password AWS CLI command to obtain an authentica-tion token. Update the docker login command to use the authentication token to access the ECR repository.
This is the correct solution. The aws ecr get-login-password AWS CLI command retrieves and displays an authentication token that can be used to log in to an ECR repository. The docker login command can use this token as a password to authenticate with the ECR repository. This way, the CodeBuild project can push and pull images from the ECR repository without any errors. For more information, see Using Amazon ECR with the AWS CLI and get-login-password.

**NEW QUESTION 65**
A DevOps engineer is architecting a continuous development strategy for a company's software as a service (SaaS) web application running on AWS. For application and security reasons users subscribing to this application are distributed across multiple. Application Load Balancers (ALBs) each of which has a dedicated Auto Scaling group and fleet of Amazon EC2 instances The application does not require a build stage and when it is committed to AWS CodeCommit, the application must trigger a simultaneous deployment to all ALBs Auto Scaling groups and EC2 fleets.
Which architecture will meet these requirements with the LEAST amount of configuration?

A. Create a single AWS CodePipeline pipeline that deploys the application in parallel using unique AWS CodeDeploy applications and deployment groups created for each ALB-Auto Scaling group pair.
B. Create a single AWS CodePipeline pipeline that deploys the application using a single AWS CodeDeploy application and single deployment group.
C. Create a single AWS CodePipeline pipeline that deploys the application in parallel using a single AWS CodeDeploy application and unique deployment group for each ALB-Auto Scaling group pair.
D. Create an AWS CodePipeline pipeline for each ALB-Auto Scaling group pair that deploys the application using an AWS CodeDeploy application and deployment group created for the same ALB-Auto Scaling group pair.

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/codedeploy/latest/userguide/deployment- groups.html

**NEW QUESTION 67**

A DevOps engineer manages a web application that runs on Amazon EC2 instances behind an Application Load Balancer (ALB). The instances run in an EC2 Auto Scaling group across multiple Availability Zones. The engineer needs to implement a deployment strategy that:
Launches a second fleet of instances with the same capacity as the original fleet. Maintains the original fleet unchanged while the second fleet is launched. Transitions traffic to the second fleet when the second fleet is fully deployed. Terminates the original fleet automatically 1 hour after transition.
Which solution will satisfy these requirements?

A. Use an AWS CloudFormation template with a retention policy for the ALB set to 1 hou
B. Update the Amazon Route 53 record to reflect the new ALB.
C. Use two AWS Elastic Beanstalk environments to perform a blue/green deployment from the original environment to the new on
D. Create an application version lifecycle policy to terminate the original environment in 1 hour.
E. Use AWS CodeDeploy with a deployment group configured with a blue/green deployment configuration Select the option Terminate the original instances in the deployment group with a waiting period of 1 hour.
F. Use AWS Elastic Beanstalk with the configuration set to Immutabl
G. Create an.ebextension using the Resources key that sets the deletion policy of the ALB to 1 hour, and deploy the application.

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/codedeploy/latest/APIReference/API_BlueInstanceTerminati onOption.html
The original revision termination settings are configured to wait 1 hour after traffic has been rerouted before terminating the blue task set.
https://docs.aws.amazon.com/AmazonECS/latest/developerguide/deployment-type- bluegreen.html

**NEW QUESTION 69**

A company wants to use AWS CloudFormation for infrastructure deployment. The company has strict tagging and resource requirements and wants to limit the deployment to two Regions. Developers will need to deploy multiple versions of the same application.
Which solution ensures resources are deployed in accordance with company policy?

A. Create AWS Trusted Advisor checks to find and remediate unapproved CloudFormation StackSets.
B. Create a Cloud Formation drift detection operation to find and remediate unapproved CloudFormation StackSets.
C. Create CloudFormation StackSets with approved CloudFormation templates.
D. Create AWS Service Catalog products with approved CloudFormation templates.

**Answer:** D

**Explanation:**
service catalog uses stacksets and can enforce tag and restrict resources AWS Customer case with tag enforcement https://aws.amazon.com/ko/blogs/apn/enforce-centralized-tag-compliance-using-aws-service-catalog-amazon-dynamodb-aws-lambda- and-amazon-cloudwatch-events/ And Youtube video showing how to restrict resources per user with portfolio https://www.youtube.com/watch?v=LzvhTcqqyog

**NEW QUESTION 73**

A company has an application that includes AWS Lambda functions. The Lambda functions run Python code that is stored in an AWS CodeCommit repository. The company has recently experienced failures in the production environment because of an error in the Python code. An engineer has written unit tests for the Lambda functions to help avoid releasing any future defects into the production environment.
The company's DevOps team needs to implement a solution to integrate the unit tests into an existing AWS CodePipeline pipeline. The solution must produce reports about the unit tests for the company to view.
Which solution will meet these requirements?

A. Associate the CodeCommit repository with Amazon CodeGuru Reviewe
B. Create a new AWS CodeBuild projec
C. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild projec
D. Create a buildspec.yml file in the CodeCommit repositor
E. In the buildspec.yml file, define the actions to run a CodeGuru review.
F. Create a new AWS CodeBuild projec
G. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild projec
H. Create a CodeBuild report grou
I. Create a buildspec.yml file in the CodeCommit repositor
J. In the buildspec.yml file, define the actions to run the unit tests with an output of JUNITXML in the build phase section.Configure the test reports to be uploaded to the new CodeBuild report group.
K. Create a new AWS CodeArtifact repositor
L. Create a new AWS CodeBuild projec
M. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild projec
N. Create an appspec.yml file in the original CodeCommit repositor
O. In the appspec.yml file, define the actions to run the unit tests with an output of CUCUMBERJSON in the build phase sectio
P. Configure the tests reports to be sent to the new CodeArtifact repository.
Q. Create a new AWS CodeBuild projec
R. In the CodePipeline pipeline, configure a test stage that uses the new CodeBuild projec
S. Create a new Amazon S3 bucke
T. Create a buildspec.yml file in the CodeCommit repositor
. In the buildspec.yml file, define the actions to run the unit tests with an output of HTML in the phases sectio
. In the reports section, upload the test reports to the S3 bucket.

**Answer:** B

**Explanation:**
The correct answer is B. Creating a new AWS CodeBuild project and configuring a test stage in the AWS CodePipeline pipeline that uses the new CodeBuild project is the best way to integrate the unit tests into the existing pipeline. Creating a CodeBuild report group and uploading the test reports to the new CodeBuild report group will produce reports about the unit tests for the company to view. Using JUNITXML as the output format for the unit tests is supported by CodeBuild and will generate a valid report. Option A is incorrect because Amazon CodeGuru Reviewer is a service that provides automated code reviews and recommendations for improving code quality and performance. It is not a tool for running unit tests or producing test reports. Therefore, option A will not meet the requirements.

Option C is incorrect because AWS CodeArtifact is a service that provides secure, scalable, and cost-effective artifact management for software development. It is not a tool for running unit tests or producing test reports. Moreover, option C uses CUCUMBERJSON as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.
Option D is incorrect because uploading the test reports to an Amazon S3 bucket is not the best way to produce reports about the unit tests for the company to view. CodeBuild has a built-in feature to create and manage test reports, which is more convenient and efficient than using S3. Furthermore, option D uses HTML as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.

**NEW QUESTION 78**
A DevOps engineer is building a multistage pipeline with AWS CodePipeline to build, verify, stage, test, and deploy an application. A manual approval stage is required between the test stage and the deploy stage. The development team uses a custom chat tool with webhook support that requires near-real-time notifications.
How should the DevOps engineer configure status updates for pipeline activity and approval requests to post to the chat tool?

A. Create an Amazon CloudWatch Logs subscription that filters on CodePipeline Pipeline Execution State Chang
B. Publish subscription events to an Amazon Simple Notification Service (Amazon SNS) topi
C. Subscribe the chat webhook URL to the SNS topic, and complete the subscription validation.
D. Create an AWS Lambda function that is invoked by AWS CloudTrail event
E. When a CodePipeline Pipeline Execution State Change event is detected, send the event details to the chat webhook URL.
F. Create an Amazon EventBridge rule that filters on CodePipeline Pipeline Execution State Chang
G. Publish the events to an Amazon Simple Notification Service (Amazon SNS) topi
H. Create an AWS Lambda function that sends event details to the chat webhook UR
I. Subscribe the function to the SNS topic.
J. Modify the pipeline code to send the event details to the chat webhook URL at the end of each stag
K. Parameterize the URL so that each pipeline can send to a different URL based on the pipeline environment.

**Answer:** C

**Explanation:**
https://aws.amazon.com/premiumsupport/knowledge-center/sns-lambda-webhooks-chime-slack-teams/

**NEW QUESTION 82**
A company uses AWS Storage Gateway in file gateway mode in front of an Amazon S3 bucket that is used by multiple resources. In the morning when business begins, users do not see the objects processed by a third party the previous evening. When a DevOps engineer looks directly at the S3 bucket, the data is there, but it is missing in Storage Gateway.
Which solution ensures that all the updated third-party files are available in the morning?

A. Configure a nightly Amazon EventBridge event to invoke an AWS Lambda function to run the RefreshCache command for Storage Gateway.
B. Instruct the third party to put data into the S3 bucket using AWS Transfer for SFTP.
C. Modify Storage Gateway to run in volume gateway mode.
D. Use S3 Same-Region Replication to replicate any changes made directly in the S3 bucket to Storage Gateway.

**Answer:** A

**Explanation:**
https://docs.aws.amazon.com/storagegateway/latest/APIReference/API_RefreshCache.ht ml " It only updates the cached inventory to reflect changes in the inventory of the objects in the S3 bucket. This operation is only supported in the S3 File Gateway types."

**NEW QUESTION 84**
A company uses AWS Directory Service for Microsoft Active Directory as its identity provider (IdP). The company requires all infrastructure to be defined and deployed by AWS CloudFormation.
A DevOps engineer needs to create a fleet of Windows-based Amazon EC2 instances to host an application. The DevOps engineer has created a CloudFormation template that contains an EC2 launch template, IAM role, EC2 security group, and EC2 Auto Scaling group. The DevOps engineer must implement a solution that joins all EC2 instances to the domain of the AWS Managed Microsoft AD directory.
Which solution will meet these requirements with the MOST operational efficiency?

A. In the CloudFormation template, create an AWS::SSM::Document resource that joins the EC2 instance to the AWS Managed Microsoft AD domain by using the parameters for the existing director
B. Update the launch template to include the SSMAssociation property to use the new SSM documen
C. Attach the AmazonSSMManagedlnstanceCore and AmazonSSMDirectoryServiceAccess AWS managed policies to the IAM role that the EC2 instances use.
D. In the CloudFormation template, update the launch template to include specific tags that propagate on launc
E. Create an AWS::SSM::Association resource to associate the AWS- JoinDirectoryServiceDomain Automation runbook with the EC2 instances that have the specified tag
F. Define the required parameters to join the AWS Managed Microsoft AD director
G. Attach the AmazonSSMManagedlnstanceCore and AmazonSSMDirectoryServiceAccess AWS managed policies to the IAM role that the EC2 instances use.
H. Store the existing AWS Managed Microsoft AD domain connection details in AWS Secrets Manage
I. In the CloudFormation template, create an AWS::SSM::Association resource to associate the AWS-CreateManagedWindowslnstanceWithApproval Automation runbook with the EC2 Auto Scaling grou
J. Pass the ARNs for the parameters from Secrets Manager to join the domai
K. Attach the AmazonSSMDirectoryServiceAccess and SecretsManagerReadWrite AWS managed policies to the IAM role that the EC2 instances use.
L. Store the existing AWS Managed Microsoft AD domain administrator credentials in AWS Secrets Manage
M. In the CloudFormation template, update the EC2 launch template to include user dat
N. Configure the user data to pull the administrator credentials from Secrets Manager and to join the AWS Managed Microsoft AD domai
O. Attach the AmazonSSMManagedlnstanceCore and SecretsManagerReadWrite AWS managed policies to the IAM role that the EC2 instances use.

**Answer:** B

**Explanation:**
To meet the requirements, the DevOps engineer needs to create a solution that joins all EC2 instances to the domain of the AWS Managed Microsoft AD directory with the most operational efficiency. The DevOps engineer can use AWS Systems Manager Automation to automate the domain join process using an existing runbook called AWS- JoinDirectoryServiceDomain. This runbook can join Windows instances to an AWS Managed Microsoft AD or Simple AD directory by using

PowerShell commands. The DevOps engineer can create an AWS::SSM::Association resource in the CloudFormation template to associate the runbook with the EC2 instances that have specific tags. The tags can be defined in the launch template and propagated on launch to the EC2 instances. The DevOps engineer can also define the required parameters for the runbook, such as the directory ID, directory name, and organizational unit. The DevOps engineer can attach the AmazonSSMManagedInstanceCore and AmazonSSMDirectoryServiceAccess AWS managed policies to the IAM role that the EC2 instances use. These policies grant the necessary permissions for Systems Manager and Directory Service operations.

**NEW QUESTION 85**
A company is implementing an Amazon Elastic Container Service (Amazon ECS) cluster to run its workload. The company architecture will run multiple ECS services on the cluster. The architecture includes an Application Load Balancer on the front end and uses multiple target groups to route traffic.
A DevOps engineer must collect application and access logs. The DevOps engineer then needs to send the logs to an Amazon S3 bucket for near-real-time analysis.
Which combination of steps must the DevOps engineer take to meet these requirements? (Choose three.)

A. Download the Amazon CloudWatch Logs container instance from AW
B. Configure this instance as a tas
C. Update the application service definitions to include the logging task.
D. Install the Amazon CloudWatch Logs agent on the ECS instance
E. Change the logging driver in the ECS task definition to awslogs.
F. Use Amazon EventBridge to schedule an AWS Lambda function that will run every 60 seconds and will run the Amazon CloudWatch Logs create-export-task comman
G. Then point the output to the logging S3 bucket.
H. Activate access logging on the AL
I. Then point the ALB directly to the logging S3 bucket.
J. Activate access logging on the target groups that the ECS services us
K. Then send the logs directly to the logging S3 bucket.
L. Create an Amazon Kinesis Data Firehose delivery stream that has a destination of the logging S3 bucke
M. Then create an Amazon CloudWatch Logs subscription filter for Kinesis Data Firehose.

**Answer:** BDF

**Explanation:**
https://docs.aws.amazon.com/AmazonECS/latest/developerguide/ecs-logging-monitoring.html

**NEW QUESTION 87**
A company is using AWS to run digital workloads. Each application team in the company has its own AWS account for application hosting. The accounts are consolidated in an organization in AWS Organizations.
The company wants to enforce security standards across the entire organization. To avoid noncompliance because of security misconfiguration, the company has enforced the use of AWS CloudFormation. A production support team can modify resources in the production environment by using the AWS Management Console to troubleshoot and resolve application-related issues.
A DevOps engineer must implement a solution to identify in near real time any AWS
service misconfiguration that results in noncompliance. The solution must automatically remediate the issue within 15 minutes of identification. The solution also must track noncompliant resources and events in a centralized dashboard with accurate timestamps.
Which solution will meet these requirements with the LEAST development overhead?

A. Use CloudFormation drift detection to identify noncompliant resource
B. Use drift detection events from CloudFormation to invoke an AWS Lambda function for remediatio
C. Configure the Lambda function to publish logs to an Amazon CloudWatch Logs log grou
D. Configure an Amazon CloudWatch dashboard to use the log group for tracking.
E. Turn on AWS CloudTrail in the AWS account
F. Analyze CloudTrail logs by using Amazon Athena to identify noncompliant resource
G. Use AWS Step Functions to track query results on Athena for drift detection and to invoke an AWS Lambda function for remediatio
H. For tracking, set up an Amazon QuickSight dashboard that uses Athena as the data source.
I. Turn on the configuration recorder in AWS Config in all the AWS accounts to identify noncompliant resource
J. Enable AWS Security Hub with the ~no-enable-default-standards option in all the AWS account
K. Set up AWS Config managed rules and custom rule
L. Set up automatic remediation by using AWS Config conformance pack
M. For tracking, set up a dashboard on Security Hub in a designated Security Hub administrator account.
N. Turn on AWS CloudTrail in the AWS account
O. Analyze CloudTrail logs by using Amazon CloudWatch Logs to identify noncompliant resource
P. Use CloudWatch Logs filters for drift detectio
Q. Use Amazon EventBridge to invoke the Lambda function for remediatio
R. Stream filtered CloudWatch logs to Amazon OpenSearch Servic
S. Set up a dashboard on OpenSearch Service for tracking.

**Answer:** C

**Explanation:**
The best solution is to use AWS Config and AWS Security Hub to identify and remediate noncompliant resources across multiple AWS accounts. AWS Config enables continuous monitoring of the configuration of AWS resources and evaluates them against desired configurations. AWS Config can also automatically remediate noncompliant resources by using conformance packs, which are a collection of AWS Config rules and remediation actions that can be deployed as a single entity. AWS Security Hub provides a comprehensive view of the security posture of AWS accounts and resources. AWS Security Hub can aggregate and normalize the findings from AWS Config and other AWS services, as well as from partner solutions. AWS Security Hub can also be used to create a dashboard for tracking noncompliant resources and events in a centralized location.
The other options are not optimal because they either require more development overhead, do not provide near real time detection and remediation, or do not provide a centralized dashboard for tracking.
Option A is not optimal because CloudFormation drift detection is not a near real time solution. Drift detection has to be manually initiated on each stack or resource, or scheduled using a cron expression. Drift detection also does not provide remediation
actions, so a custom Lambda function has to be developed and invoked. CloudWatch Logs and dashboard can be used for tracking, but they do not provide a comprehensive view of the security posture of the AWS accounts and resources.
Option B is not optimal because CloudTrail logs analysis using Athena is not a near real time solution. Athena queries have to be manually run or scheduled using a cron expression. Athena also does not provide remediation actions, so a custom Lambda function has to be developed and invoked. Step Functions can be used

to orchestrate the query and remediation workflow, but it adds more complexity and cost. QuickSight dashboard can be used for tracking, but it does not provide a comprehensive view of the security posture of the AWS accounts and resources.
Option D is not optimal because CloudTrail logs analysis using CloudWatch Logs is not a near real time solution. CloudWatch Logs filters have to be manually created or updated for each resource type and configuration change. CloudWatch Logs also does not provide remediation actions, so a custom Lambda function has to be developed and invoked. EventBridge can be used to trigger the Lambda function, but it adds more complexity and cost. OpenSearch Service dashboard can be used for tracking, but it does not provide a comprehensive view of the security posture of the AWS accounts and resources. References:
? AWS Config conformance packs
? Introducing AWS Config conformance packs
? Managing conformance packs across all accounts in your organization

**NEW QUESTION 89**
A company is using AWS CodePipeline to automate its release pipeline. AWS CodeDeploy is being used in the pipeline to deploy an application to Amazon Elastic Container Service (Amazon ECS) using the blue/green deployment model. The company wants to implement scripts to test the green version of the application before shifting traffic. These scripts will complete in 5 minutes or less. If errors are discovered during these tests, the application must be rolled back.
Which strategy will meet these requirements?

A. Add a stage to the CodePipeline pipeline between the source and deploy stage
B. Use AWS CodeBuild to create a runtime environment and build commands in the buildspec file to invoke test script
C. If errors are found, use the aws deploy stop-deployment command to stop the deployment.
D. Add a stage to the CodePipeline pipeline between the source and deploy stage
E. Use this stage to invoke an AWS Lambda function that will run the test script
F. If errors are found, use the aws deploy stop-deployment command to stop the deployment.
G. Add a hooks section to the CodeDeploy AppSpec fil
H. Use the AfterAllowTestTraffic lifecycle event to invoke an AWS Lambda function to run the test script
I. If errors are found, exit the Lambda function with an error to initiate rollback.
J. Add a hooks section to the CodeDeploy AppSpec fil
K. Use the AfterAllowTraffic lifecycle event to invoke the test script
L. If errors are found, use the aws deploy stop-deployment CLI command to stop the deployment.

**Answer:** C

**Explanation:**
https://docs.aws.amazon.com/codedeploy/latest/userguide/reference-appspec-file-structure-hooks.html

**NEW QUESTION 92**
A DevOps engineer is planning to deploy a Ruby-based application to production. The application needs to interact with an Amazon RDS for MySQL database and should have automatic scaling and high availability. The stored data in the database is critical and should persist regardless of the state of the application stack.
The DevOps engineer needs to set up an automated deployment strategy for the application with automatic rollbacks. The solution also must alert the application team when a deployment fails.
Which combination of steps will meet these requirements? (Select THREE.)

A. Deploy the application on AWS Elastic Beanstal
B. Deploy an Amazon RDS for MySQL DB instance as part of the Elastic Beanstalk configuration.
C. Deploy the application on AWS Elastic Beanstal
D. Deploy a separate Amazon RDS for MySQL DB instance outside of Elastic Beanstalk.
E. Configure a notification email address that alerts the application team in the AWS Elastic Beanstalk configuration.
F. Configure an Amazon EventBridge rule to monitor AWS Health event
G. Use an Amazon Simple Notification Service (Amazon SNS) topic as a target to alert the application team.
H. Use the immutable deployment method to deploy new application versions.
I. Use the rolling deployment method to deploy new application versions.

**Answer:** BDE

**Explanation:**
For deploying a Ruby-based application with requirements for interaction with an Amazon RDS for MySQL database, automatic scaling, high availability, and data persistence, the following steps will meet the requirements:
? B. Deploy the application on AWS Elastic Beanstalk. Deploy a separate Amazon
RDS for MySQL DB instance outside of Elastic Beanstalk. This approach ensures that the database persists independently of the Elastic Beanstalk environment, which can be torn down and recreated without affecting the database123.
? E. Use the immutable deployment method to deploy new application
versions. Immutable deployments provide a zero-downtime deployment method that ensures that if any part of the deployment process fails, the environment is rolled back to the original state automatically4.
? D. Configure an Amazon EventBridge rule to monitor AWS Health events. Use an
Amazon Simple Notification Service (Amazon SNS) topic as a target to alert the application team. This setup allows for automated monitoring and alerting of the application team in case of deployment failures or other health events56.
References:
? AWS Elastic Beanstalk documentation on deploying Ruby applications1.
? AWS documentation on application auto-scaling7.
? AWS documentation on automated deployment strategies with automatic rollbacks and alerts456.

**NEW QUESTION 93**
A company builds a container image in an AWS CodeBuild project by running Docker commands. After the container image is built, the CodeBuild project uploads the container image to an Amazon S3 bucket. The CodeBuild project has an 1AM service role that has permissions to access the S3 bucket.
A DevOps engineer needs to replace the S3 bucket with an Amazon Elastic Container Registry (Amazon ECR) repository to store the container images. The DevOps engineer creates an ECR private image repository in the same AWS Region of the CodeBuild project. The DevOps engineer adjusts the 1AM service role with the permissions that are necessary to work with the new ECR repository. The DevOps engineer also places new repository information into the docker build command and the docker push command that are used in the buildspec.yml file.
When the CodeBuild project runs a build job, the job fails when the job tries to access the ECR repository.
Which solution will resolve the issue of failed access to the ECR repository?

A. Update the buildspec.yml file to log in to the ECR repository by using the aws ecr get- login-password AWS CLI command to obtain an authentication toke
B. Update the docker login command to use the authentication token to access the ECR repository.
C. Add an environment variable of type SECRETS_MANAGER to the CodeBuild projec
D. In the environment variable, include the ARN of the CodeBuild project's lAM service rol
E. Update the buildspec.yml file to use the new environment variable to log in with the docker login command to access the ECR repository.
F. Update the ECR repository to be a public image repositor
G. Add an ECR repository policy that allows the 1AM service role to have access.
H. Update the buildspec.yml file to use the AWS CLI to assume the 1AM service role for ECR operation
I. Add an ECR repository policy that allows the 1AM service role to have access.

**Answer:** A

**Explanation:**
(A) When Docker communicates with an Amazon Elastic Container Registry (ECR) repository, it requires authentication. You can authenticate your Docker client to the Amazon ECR registry with the help of the AWS CLI (Command Line Interface). Specifically, you can use the "aws ecr get-login-password" command to get an authorization token and then use Docker's "docker login" command with that token to authenticate to the registry. You would need to perform these steps in your buildspec.yml file before attempting to push or pull images from/to the ECR repository.

**NEW QUESTION 94**
A company has a legacy application A DevOps engineer needs to automate the process of building the deployable artifact for the legacy application. The solution must store the deployable artifact in an existing Amazon S3 bucket for future deployments to reference
Which solution will meet these requirements in the MOST operationally efficient way?

A. Create a custom Docker image that contains all the dependencies tor the legacy application Store the custom Docker image in a new Amazon Elastic Container Registry (Amazon ECR) repository Configure a new AWS CodeBuild project to use the custom Docker image to build the deployable artifact and to save the artifact to the S3 bucket.
B. Launch a new Amazon EC2 instance Install all the dependencies (or the legacy application on the EC2 instance Use the EC2 instance to build the deployable artifact and to save the artifact to the S3 bucket.
C. Create a custom EC2 Image Builder image Install all the dependencies for the legacy application on the image Launch a new Amazon EC2 instance from the image Use the new EC2 instance to build the deployable artifact and to save the artifact to the S3 bucket.
D. Create an Amazon Elastic Kubernetes Service (Amazon EKS) cluster with an AWS Fargate profile that runs in multiple Availability Zones Create a custom Docker image that contains all the dependencies for the legacy application Store the custom Docker image in a new Amazon Elastic Container Registry (Amazon ECR) repository Use the custom Docker image inside the EKS cluster to build the deployable artifact and to save the artifact to the S3 bucket.

**Answer:** A

**Explanation:**
This approach is the most operationally efficient because it leverages the benefits of containerization, such as isolation and reproducibility, as well as AWS managed services. AWS CodeBuild is a fully managed build service that can compile your source code, run tests, and produce deployable software packages. By using a custom Docker image that includes all dependencies, you can ensure that the environment in which your code is built is consistent. Using Amazon ECR to store Docker images lets you easily deploy the images to any environment. Also, you can directly upload the build artifacts to Amazon S3 from AWS CodeBuild, which is beneficial for version control and archival purposes.

**NEW QUESTION 98**
A company is storing 100 GB of log data in csv format in an Amazon S3 bucket SQL developers want to query this data and generate graphs to visualize it. The SQL developers also need an efficient automated way to store metadata from the csv file.
Which combination of steps will meet these requirements with the LEAST amount of effort? (Select THREE.)

A. Fitter the data through AWS X-Ray to visualize the data.
B. Filter the data through Amazon QuickSight to visualize the data.
C. Query the data with Amazon Athena.
D. Query the data with Amazon Redshift.
E. Use the AWS Glue Data Catalog as the persistent metadata store.
F. Use Amazon DynamoDB as the persistent metadata store.

**Answer:** BCE

**Explanation:**
https://docs.aws.amazon.com/glue/latest/dg/components-overview.html

**NEW QUESTION 102**
A company's DevOps engineer is working in a multi-account environment. The company uses AWS Transit Gateway to route all outbound traffic through a network operations account. In the network operations account all account traffic passes through a firewall appliance for inspection before the traffic goes to an internet gateway.
The firewall appliance sends logs to Amazon CloudWatch Logs and includes event
seventies of CRITICAL, HIGH, MEDIUM, LOW, and INFO. The security team wants to receive an alert if any CRITICAL events occur.
What should the DevOps engineer do to meet these requirements?

A. Create an Amazon CloudWatch Synthetics canary to monitor the firewall stat
B. If the firewall reaches a CRITICAL state or logs a CRITICAL event use a CloudWatch alarm to publish a notification to an Amazon Simple Notification Service (Amazon SNS) topic Subscribe the security team's email address to the topic.
C. Create an Amazon CloudWatch metric filter by using a search for CRITICAL events Publish a custom metric for the findin
D. Use a CloudWatch alarm based on the custom metric to publish a notification to an Amazon Simple Notification Service (Amazon SNS) topi
E. Subscribe the security team's email address to the topic.
F. Enable Amazon GuardDuty in the network operations accoun
G. Configure GuardDuty to monitor flow logs Create an Amazon EventBridge event rule that is invoked by GuardDuty events that are CRITICAL Define an Amazon Simple Notification Service (Amazon SNS) topic as a target Subscribe the security team's email address to the topic.
H. Use AWS Firewall Manager to apply consistent policies across all account
I. Create an Amazo
J. EventBridge event rule that is invoked by Firewall Manager events that are CRITICAL Define an Amazon Simple Notification Service (Amazon SNS) topic as a

target Subscribe the security team's email address to the topic.

**Answer:** B

**Explanation:**
"The firewall appliance sends logs to Amazon CloudWatch Logs and includes event severities of CRITICAL, HIGH, MEDIUM, LOW, and INFO"

**NEW QUESTION 107**
A company detects unusual login attempts in many of its AWS accounts. A DevOps engineer must implement a solution that sends a notification to the company's security team when multiple failed login attempts occur. The DevOps engineer has already created an Amazon Simple Notification Service (Amazon SNS) topic and has subscribed the security team to the SNS topic.
Which solution will provide the notification with the LEAST operational effort?

A. Configure AWS CloudTrail to send log management events to an Amazon CloudWatch Logs log grou
B. Create a CloudWatch Logs metric filter to match failed ConsoleLogin event
C. Create a CloudWatch alarm that is based on the metric filte
D. Configure an alarm action to send messages to the SNS topic.
E. Configure AWS CloudTrail to send log management events to an Amazon S3 bucke
F. Create an Amazon Athena query that returns a failure if the query finds failed logins in the logs in the S3 bucke
G. Create an Amazon EventBridge rule to periodically run the quer
H. Create a second EventBridge rule to detect when the query fails and to send a message to the SNS topic.
I. Configure AWS CloudTrail to send log data events to an Amazon CloudWatch Logs log grou
J. Create a CloudWatch logs metric filter to match failed Consolel_ogin event
K. Create a CloudWatch alarm that is based on the metric filte
L. Configure an alarm action to send messages to the SNS topic.
M. Configure AWS CloudTrail to send log data events to an Amazon S3 bucke
N. Configure an Amazon S3 event notification for the s3:ObjectCreated event typ
O. Filter the event type by ConsoleLogin failed event
P. Configure the event notification to forward to the SNS topic.

**Answer:** C

**Explanation:**
The correct answer is C. Configuring AWS CloudTrail to send log data events to an Amazon CloudWatch Logs log group and creating a CloudWatch logs metric filter to match failed ConsoleLogin events is the simplest and most efficient way to monitor and alert on failed login attempts. Creating a CloudWatch alarm that is based on the metric filter and configuring an alarm action to send messages to the SNS topic will ensure that the security team is notified when multiple failed login attempts occur. This solution requires the least operational effort compared to the other options.
Option A is incorrect because it involves configuring AWS CloudTrail to send log management events instead of log data events. Log management events are used to track changes to CloudTrail configuration, such as creating, updating, or deleting a trail. Log data events are used to track API activity in AWS accounts, such as login attempts. Therefore, option A will not capture the failed ConsoleLogin events.
Option B is incorrect because it involves creating an Amazon Athena query and two Amazon EventBridge rules to monitor and alert on failed login attempts. This is a more complex and costly solution than using CloudWatch logs and alarms. Moreover, option B relies on the query returning a failure, which may not happen if the query is executed successfully but does not find any failed logins.
Option D is incorrect because it involves configuring AWS CloudTrail to send log data events to an Amazon S3 bucket and configuring an Amazon S3 event notification for the s3:ObjectCreated event type. This solution will not work because the s3:ObjectCreated event type does not allow filtering by ConsoleLogin failed events. The event notification will be triggered for any object created in the S3 bucket, regardless of the event type. Therefore, option D will generate a lot of false positives and unnecessary notifications. References:
? AWS CloudTrail Log File Examples
? Creating CloudWatch Alarms for CloudTrail Events: Examples
? Monitoring CloudTrail Log Files with Amazon CloudWatch Logs

**NEW QUESTION 112**
A company wants to migrate its content sharing web application hosted on Amazon EC2 to a serverless architecture. The company currently deploys changes to its application by creating a new Auto Scaling group of EC2 instances and a new Elastic Load Balancer, and then shifting the traffic away using an Amazon Route 53 weighted routing policy.
For its new serverless application, the company is planning to use Amazon API Gateway and AWS Lambda. The company will need to update its deployment processes to work with the new application. It will also need to retain the ability to test new features on a small number of users before rolling the features out to the entire user base.
Which deployment strategy will meet these requirements?

A. Use AWS CDK to deploy API Gateway and Lambda function
B. When code needs to be changed, update the AWS CloudFormation stack and deploy the new version of the APIs and Lambda function
C. Use a Route 53 failover routing policy for the canary release strategy.
D. Use AWS CloudFormation to deploy API Gateway and Lambda functions using Lambda function version
E. When code needs to be changed, update the CloudFormation stack with the new Lambda code and update the API versions using a canary release strateg
F. Promote the new version when testing is complete.
G. Use AWS Elastic Beanstalk to deploy API Gateway and Lambda function
H. When code needs to be changed, deploy a new version of the API and Lambda function
I. Shift traffic gradually using an Elastic Beanstalk blue/green deployment.
J. Use AWS OpsWorks to deploy API Gateway in the service layer and Lambda functions in a custom laye
K. When code needs to be changed, use OpsWorks to perform a blue/green deployment and shift traffic gradually.

**Answer:** B

**Explanation:**
https://docs.aws.amazon.com/serverless-application- model/latest/developerguide/automating-updates-to-serverless-apps.html

**NEW QUESTION 114**
A company uses AWS CloudFormation stacks to deploy updates to its application. The stacks consist of different resources. The resources include AWS Auto Scaling groups, Amazon EC2 instances, Application Load Balancers (ALBs), and other resources that are necessary to launch and maintain independent stacks.

Changes to application resources outside of CloudFormation stack updates are not allowed.
The company recently attempted to update the application stack by using the AWS CLI. The stack failed to update and produced the following error message: "ERROR: both the deployment and the CloudFormation stack rollback failed. The deployment failed because the following resource(s) failed to update: [AutoScalingGroup]."
The stack remains in a status of UPDATE_ROLLBACK_FAILED. * Which solution will resolve this issue?

A. Update the subnet mappings that are configured for the ALB
B. Run the aws cloudformation update-stack-set AWS CLI command.
C. Update the 1AM role by providing the necessary permissions to update the stac
D. Run the aws cloudformation continue-update-rollback AWS CLI command.
E. Submit a request for a quota increase for the number of EC2 instances for the accoun
F. Run the aws cloudformation cancel-update-stack AWS CLI command.
G. Delete the Auto Scaling group resourc
H. Run the aws cloudformation rollback-stack AWS CLI command.

**Answer:** B

**Explanation:**
https://repost.aws/knowledge-center/cloudformation-update-rollback-failed If your stack is stuck in the UPDATE_ROLLBACK_FAILED state after a failed update, then the only actions that you can perform on the stack are the ContinueUpdateRollback or DeleteStack operations.

**NEW QUESTION 116**
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