



# Amazon-Web-Services

## Exam Questions DOP-C02

AWS Certified DevOps Engineer - Professional

#### NEW QUESTION 1

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

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

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

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

**Answer:** A

#### Explanation:

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

#### NEW QUESTION 2

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

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

What should a DevOps engineer do to meet these requirements?

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

**Answer:** D

#### Explanation:

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

#### NEW QUESTION 3

A company is using an AWS CodeBuild project to build and package an application. The packages are copied to a shared Amazon S3 bucket before being deployed across multiple AWS accounts.

The buildspec.yml file contains the following:

```
version: 0.2
phases:
  build:
    commands:
      - go build -o myapp
  post_build:
    commands:
      - aws s3 cp --acl authenticated-read myapp s3://artifacts/
```

The DevOps engineer has noticed that anybody with an AWS account is able to download the artifacts. What steps should the DevOps engineer take to stop this?

- A. Modify the post\_build command to use --acl public-read and configure a bucket policy that grants read access to the relevant AWS accounts only.
- B. Configure a default ACL for the S3 bucket that defines the set of authenticated users as the relevant AWS accounts only and grants read-only access.
- C. Create an S3 bucket policy that grants read access to the relevant AWS accounts and denies read access to the principal "\*".
- D. Modify the post\_build command to remove --acl authenticated-read and configure a bucket policy that allows read access to the relevant AWS accounts only.

**Answer:** D

**Explanation:**

When setting the flag authenticated-read in the command line, the owner gets FULL\_CONTROL. The AuthenticatedUsers group (Anyone with an AWS account) gets READ access. Reference: <https://docs.aws.amazon.com/AmazonS3/latest/userguide/acl-overview.html>

**NEW QUESTION 4**

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"]
  }
}
```

**Answer: C**

**Explanation:**

<https://docs.aws.amazon.com/singlesignon/latest/userguide/configure-abac.html>

**NEW QUESTION 5**

A company provides an application to customers. The application has an Amazon API Gateway REST API that invokes an AWS Lambda function. On initialization, the Lambda function loads a large amount of data from an Amazon DynamoDB table. The data load process results in long cold-start times of 8-10 seconds. The DynamoDB table has DynamoDB Accelerator (DAX) configured. Customers report that the application intermittently takes a long time to respond to requests. The application receives thousands of requests throughout the day. In the middle of the day, the application experiences 10 times more requests than at any other time of the day. Near the end of the day, the application's request volume decreases to 10% of its normal total. A DevOps engineer needs to reduce the latency of the Lambda function at all times of the day. Which solution will meet these requirements?

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

**Answer: C**

**Explanation:**

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

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

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

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

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

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

- Option B is incorrect because it will not scale the number of Lambda function instances up or down based on demand.
- Option D is incorrect because it will only configure reserved concurrency on the API Gateway API, which will not affect the Lambda function.

#### NEW QUESTION 6

A company is running an application on Amazon EC2 instances in an Auto Scaling group. Recently an issue occurred that prevented EC2 instances from launching successfully and it took several hours for the support team to discover the issue. The support team wants to be notified by email whenever an EC2 instance does not start successfully. Which action will accomplish this?

- A. Add a health check to the Auto Scaling group to invoke an AWS Lambda function whenever an instance status is impaired.
- B. Configure the Auto Scaling group to send a notification to an Amazon SNS topic whenever a failed instance launch occurs.
- C. Create an Amazon CloudWatch alarm that invokes an AWS Lambda function when a failed AttachInstances Auto Scaling API call is made.
- D. Create a status check alarm on Amazon EC2 to send a notification to an Amazon SNS topic whenever a status check fail occurs.

**Answer:** B

#### Explanation:

<https://docs.aws.amazon.com/autoscaling/ec2/userguide/ASGettingNotifications.html#auto-scaling-sns-notificat>

#### NEW QUESTION 7

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

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

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

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

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

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

**Answer:** AD

#### Explanation:

"AWS CodeArtifact operates in multiple Availability Zones and stores artifact data and metadata in Amazon S3 and Amazon DynamoDB. Your encrypted data is redundantly stored across multiple facilities and multiple devices in each facility, making it highly available and highly durable."

<https://aws.amazon.com/codeartifact/features/> With no internet connectivity, a gateway endpoint becomes necessary to access S3.

#### NEW QUESTION 8

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

To keep up with demand, the DevOps engineer wants to automate the creation of development environments. Because the infrastructure required to support the



application is expected to grow, there must be a way to easily update the deployed infrastructure. CloudFormation will be used to create a template for the development environments.

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

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

**Answer: C**

**Explanation:**

[https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.h](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.html)

[https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.h](https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference-importvalue.html)

CF of network exports the VPC, subnet or needed information CF of application imports the above information to its stack and UpdateChangeSet/ExecuteChangeSet

**NEW QUESTION 9**

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 environment's target group or the green environment's 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 environment's EC2 instances.

What should the DevOps engineer do to meet these requirements?

- A. Start a rolling restart to 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, 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 group. 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.
- C. 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.
- D. 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 environment's 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 10**

A development team uses AWS CodeCommit for version control for applications. The development team uses AWS CodePipeline, AWS CodeBuild, and AWS CodeDeploy for CI/CD infrastructure. In CodeCommit, the development team recently merged pull requests that did not pass long-running tests in the code base. The development team needed to perform rollbacks to branches in the codebase, resulting in lost time and wasted effort.

A DevOps engineer must automate testing of pull requests in CodeCommit to ensure that reviewers more easily see the results of automated tests as part of the pull request review.

What should the DevOps engineer do to meet this requirement?

- A. Create an Amazon EventBridge rule that reacts to the pullRequestStatusChanged event
- B. Create an AWS Lambda function that invokes a CodePipeline pipeline with a CodeBuild action that runs the tests for the application
- C. Program the Lambda function to post the CodeBuild badge as a comment on the pull request so that developers will see the badge in their code review.
- D. Create an Amazon EventBridge rule that reacts to the pullRequestCreated event
- E. Create an AWS Lambda function that invokes a CodePipeline pipeline with a CodeBuild action that runs the tests for the application
- F. Program the Lambda function to post the CodeBuild test results as a comment on the pull request when the test results are complete.
- G. Create an Amazon EventBridge rule that reacts to pullRequestCreated and pullRequestSourceBranchUpdated event
- H. Create an AWS Lambda function that invokes a CodePipeline pipeline with a CodeBuild action that runs the tests for the application
- I. Program the Lambda function to post the CodeBuild badge as a comment on the pull request so that developers will see the badge in their code review.
- J. Create an Amazon EventBridge rule that reacts to the pullRequestStatusChanged event
- K. Create an AWS Lambda function that invokes a CodePipeline pipeline with a CodeBuild action that runs the tests for the application
- L. Program the Lambda function to post the CodeBuild test results as a comment on the pull request when the test results are complete.

**Answer: B**

**Explanation:**

<https://aws.amazon.com/es/blogs/devops/complete-ci-cd-with-aws-codecommit-aws-codebuild-aws-codedeploy>

#### NEW QUESTION 10

A company requires an RPO of 2 hours and an RTO of 10 minutes for its data and application at all times. An application uses a MySQL database and Amazon EC2 web servers. The development team needs a strategy for failover and disaster recovery.

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

- A. Create an Amazon Aurora cluster in one Availability Zone across multiple Regions as the data store. Use Aurora's automatic recovery capabilities in the event of a disaster.
- B. Create an Amazon Aurora global database in two Regions as the data store.
- C. In the event of a failure, promote the secondary Region as the primary for the application.
- D. Create an Amazon Aurora multi-master cluster across multiple Regions as the data store.
- E. Use a Network Load Balancer to balance the database traffic in different Regions.
- F. Set up the application in two Regions and use Amazon Route 53 failover-based routing that points to the Application Load Balancers in both Regions.
- G. Use health checks to determine the availability in a given Region.
- H. Use Auto Scaling groups in each Region to adjust capacity based on demand.
- I. Set up the application in two Regions and use a multi-Region Auto Scaling group behind Application Load Balancers to manage the capacity based on demand.
- J. In the event of a disaster, adjust the Auto Scaling group's desired instance count to increase baseline capacity in the failover Region.

**Answer:** BD

#### NEW QUESTION 15

A large enterprise is deploying a web application on AWS. The application runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. The application stores data in an Amazon RDS for Oracle DB instance and Amazon DynamoDB. There are separate environments for development testing and production.

What is the MOST secure and flexible way to obtain password credentials during deployment?

- A. Retrieve an access key from an AWS Systems Manager securestring parameter to access AWS services. Retrieve the database credentials from a Systems Manager SecureString parameter.
- B. Launch the EC2 instances with an EC2 1AM role to access AWS services. Retrieve the database credentials from AWS Secrets Manager.
- C. Retrieve an access key from an AWS Systems Manager plaintext parameter to access AWS services. Retrieve the database credentials from a Systems Manager SecureString parameter.
- D. Launch the EC2 instances with an EC2 1AM role to access AWS services. Store the database passwords in an encrypted config file with the application artifacts.

**Answer:** B

#### Explanation:

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

<https://www.1strategy.com/blog/2019/02/28/aws-parameter-store-vs-aws-secrets-manager/>

#### NEW QUESTION 20

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 EC2.
- 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 24

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

What should a DevOps engineer do to meet these requirements?

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

**Answer:** B

#### Explanation:

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

#### NEW QUESTION 29

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

Which solution will meet these requirements'?

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

**Answer:** A

#### Explanation:

This solution will meet the requirements because it will create a temporary copy of the production database using a snapshot, run the integration tests on the copy, and delete the copy after the tests are done. This way, the production database will not be affected by the code revisions, and the DevOps team can test the changes before deploying them to production. A buildspec file is a YAML file that contains the commands and settings that CodeBuild uses to run a build1. The buildspec file can specify the steps to restore the DB cluster from a snapshot, run the integration tests, and drop the restored database2

#### NEW QUESTION 34

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

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

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

**Answer:** CDF

#### Explanation:

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

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

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

#### NEW QUESTION 35

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 AWSCodeDeploy 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 39

A DevOps engineer at a company is supporting an AWS environment in which all users use AWS IAM Identity Center (AWS Single Sign-On). The company wants to immediately disable credentials of any new IAM user and wants the security team to receive a notification.

Which combination of steps should the DevOps engineer take to meet these requirements? (Choose three.)

- A. Create an Amazon EventBridge rule that reacts to an IAM CreateUser API call in AWS CloudTrail.
- B. Create an Amazon EventBridge rule that reacts to an IAM GetLoginProfile API call in AWS CloudTrail.
- C. Create an AWS Lambda function that is a target of the EventBridge rul
- D. Configure the Lambda function to disable any access keys and delete the login profiles that are associated with the IAM user.
- E. Create an AWS Lambda function that is a target of the EventBridge rul
- F. Configure the Lambda function to delete the login profiles that are associated with the IAM user.
- G. Create an Amazon Simple Notification Service (Amazon SNS) topic that is a target of the EventBridge rul



H. Subscribe the security team's group email address to the topic.

I. Create an Amazon Simple Queue Service (Amazon SQS) queue that is a target of the Lambda function. Subscribe the security team's group email address to the queue.

**Answer:** ACE

#### NEW QUESTION 42

An ecommerce company is receiving reports that its order history page is experiencing delays in reflecting the processing status of orders. The order processing system consists of an AWS Lambda function that uses reserved concurrency. The Lambda function processes order messages from an Amazon Simple Queue Service (Amazon SQS) queue and inserts processed orders into an Amazon DynamoDB table. The DynamoDB table has auto scaling enabled for read and write capacity.

Which actions should a DevOps engineer take to resolve this delay? (Choose two.)

- A. Check the ApproximateAgeOfOldestMessage metric for the SQS queue
- B. Increase the Lambda function concurrency limit.
- C. Check the ApproximateAgeOfOldestMessage metric for the SQS queue. Configure a redrive policy on the SQS queue.
- D. Check the NumberOfMessagesSent metric for the SQS queue
- E. Increase the SQS queue visibility timeout.
- F. Check the WriteThrottleEvents metric for the DynamoDB table
- G. Increase the maximum write capacity units (WCUs) for the table's scaling policy.
- H. Check the Throttles metric for the Lambda function
- I. Increase the Lambda function timeout.

**Answer:** AD

#### Explanation:

A: If the ApproximateAgeOfOldestMessages indicate that orders are remaining in the SQS queue for longer than expected, the reserved concurrency limit may be set too small to keep up with the number of orders entering the queue and is being throttled. D: The DynamoDB table is using Auto Scaling. With Auto Scaling, you create a scaling policy that specifies whether you want to scale read capacity or write capacity (or both), and the minimum and maximum provisioned capacity unit settings for the table. The ThrottledWriteRequests metric will indicate if there is a throttling issue on the DynamoDB table, which can be resolved by increasing the maximum write capacity units for the table's Auto Scaling policy. <https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/AutoScaling.html>

#### NEW QUESTION 47

A company wants to ensure that their EC2 instances are secure. They want to be notified if any new vulnerabilities are discovered on their instances and they also want an audit trail of all login activities on the instances.

Which solution will meet these requirements?

- A. Use AWS Systems Manager to detect vulnerabilities on the EC2 instances. Install the Amazon Kinesis Agent to capture system logs and deliver them to Amazon S3.
- B. Use AWS Systems Manager to detect vulnerabilities on the EC2 instances. Install the Systems Manager Agent to capture system logs and view login activity in the CloudTrail console.
- C. Configure Amazon CloudWatch to detect vulnerabilities on the EC2 instances. Install the AWS Config daemon to capture system logs and view them in the AWS Config console.
- D. Configure Amazon Inspector to detect vulnerabilities on the EC2 instances. Install the Amazon CloudWatch Agent to capture system logs and record them via Amazon CloudWatch Logs.

**Answer:** D

#### Explanation:

This solution will meet the requirements because it will use Amazon Inspector to scan the EC2 instances for any new vulnerabilities and generate findings that can be viewed in the Inspector console or sent as notifications via Amazon Simple Notification Service (SNS). It will also use the Amazon CloudWatch Agent to collect and send system logs from the EC2 instances to Amazon CloudWatch Logs, where they can be stored, searched, and analyzed. The system logs can provide an audit trail of all login activities on the instances, as well as other useful information such as performance metrics, errors, and events.

<https://docs.aws.amazon.com/inspector/latest/user/what-is-inspector.html>

#### NEW QUESTION 50

A company uses AWS Organizations and AWS Control Tower to manage all the company's AWS accounts. The company uses the Enterprise Support plan.

A DevOps engineer is using Account Factory for Terraform (AFT) to provision new accounts. When new accounts are provisioned, the DevOps engineer notices that the support plan for the new accounts is set to the Basic Support plan. The DevOps engineer needs to implement a solution to provision the new accounts with the Enterprise Support plan.

Which solution will meet these requirements?

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

**Answer:** D

#### Explanation:

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

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



#### NEW QUESTION 54

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

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

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

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

**Answer:** BCE

#### Explanation:

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

#### NEW QUESTION 58

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

Which logging solution will support these requirements?

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

**Answer:** A

#### Explanation:

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

#### NEW QUESTION 61

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

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

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

**Answer:** BDE

#### Explanation:

[https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial\\_cross-account-with-roles.html](https://docs.aws.amazon.com/IAM/latest/UserGuide/tutorial_cross-account-with-roles.html)

#### NEW QUESTION 65

A company has 20 service teams. Each service team is responsible for its own microservice. Each service team uses a separate AWS account for its microservice and a VPC with the 192.168.0.0/22 CIDR block. The company manages the AWS accounts with AWS Organizations. Each service team hosts its microservice on multiple Amazon EC2 instances behind an Application Load Balancer. The microservices communicate with each other across the public internet. The company's security team has issued a new guideline that all communication between microservices must use HTTPS over private network connections and cannot traverse the public internet. A DevOps engineer must implement a solution that fulfills these obligations and minimizes the number of changes for each service team. Which solution will meet these requirements?

- A. Create a new AWS account in AWS Organizations. Create a VPC in this account and use AWS Resource Access Manager to share the private subnets of this VPC with the organization. Instruct the service teams to launch a new EC2 instance in the shared VPC.
- B. Network Load Balancer (NLB) and EC2 instances that use the shared private subnets. Use the NLB DNS names for communication between microservices.
- C. Create a Network Load Balancer (NLB) in each of the microservice VPCs. Use AWS PrivateLink to create VPC endpoints in each AWS account for the NLBs. Create subscriptions to each VPC endpoint in each of the other AWS accounts. Use the VPC endpoint DNS names for communication between microservices.
- D. Create a Network Load Balancer (NLB) in each of the microservice VPCs. Create VPC peering connections between each of the microservice VPCs. Update the route tables for each VPC to use the peering links. Use the NLB DNS names for communication between microservices.
- E. Create a new AWS account in AWS Organizations. Create a transit gateway in this account and use AWS Resource Access Manager to share the transit gateway with the organization.
- F. In each of the microservice VPCs, 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-range> Private link is the best option because Transit Gateway doesn't support overlapping CIDR ranges.

**NEW QUESTION 70**

A company has developed a serverless web application that is hosted on AWS. The application consists of Amazon S3, Amazon API Gateway, several AWS Lambda functions, and an Amazon RDS for MySQL database. The company is using AWS CodeCommit to store the source code. The source code is a combination of AWS Serverless Application Model (AWS SAM) templates and Python code. A security audit and penetration test reveal that user names and passwords for authentication to the database are hardcoded within CodeCommit repositories. A DevOps engineer must implement a solution to automatically detect and prevent hardcoded secrets. What is the MOST secure solution that meets these requirements?

- A. Enable Amazon CodeGuru Profile
- B. Decorate the handler function with `@with_lambda_profiler()`. Manually review the recommendation report.
- C. Write the secret to AWS Systems Manager Parameter Store as a secure string.
- D. Update the SAM templates and the Python code to pull the secret from Parameter Store.
- E. Associate the CodeCommit repository with Amazon CodeGuru Reviewer.
- F. Manually check the code review for any recommendation.
- G. Choose the option to protect the secret.
- H. Update the SAM templates and the Python code to pull the secret from AWS Secrets Manager.
- I. Enable Amazon CodeGuru Profile
- J. Decorate the handler function with `@with_lambda_profiler()`. Manually review the recommendation report.
- K. Choose the option to protect the secret.
- L. Update the SAM templates and the Python code to pull the secret from AWS Secrets Manager.
- M. Associate the CodeCommit repository with Amazon CodeGuru Reviewer.
- N. Manually check the code review for any recommendation.
- O. Write the secret to AWS Systems Manager Parameter Store as a string.
- P. Update the SAM templates and the Python code to pull the secret from Parameter Store.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/codecommit/latest/userguide/how-to-amazon-codeguru-reviewer.html>

**NEW QUESTION 72**

A company uses AWS Organizations to manage multiple accounts. Information security policies require that all unencrypted Amazon EBS volumes be marked as non-compliant. A DevOps engineer needs to automatically deploy the solution and ensure that this compliance check is always present. Which solution will accomplish this?

- A. Create an AWS CloudFormation template that defines an AWS Inspector rule to check whether EBS encryption is enabled.
- B. Save the template to an Amazon S3 bucket that has been shared with all accounts within the company.
- C. Update the account creation script pointing to the CloudFormation template in Amazon S3.
- D. Create an AWS Config organizational rule to check whether EBS encryption is enabled and deploy the rule using the AWS CLI.
- E. Create and apply an SCP to prohibit stopping and deleting AWS Config across the organization.
- F. Create an SCP in Organization.
- G. Set the policy to prevent the launch of Amazon EC2 instances without encryption on the EBS volumes using a conditional expression.
- H. Apply the SCP to all AWS accounts. Use Amazon Athena to analyze the AWS CloudTrail output, looking for events that deny an `ec2:RunInstances` action.
- I. Deploy an IAM role to all accounts from a single trusted account.
- J. Build a pipeline with AWS CodePipeline with a stage in AWS Lambda to assume the IAM role, and list all EBS volumes in the account.
- K. Publish a report to Amazon S3.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/config/latest/developerguide/ec2-ebs-encryption-by-default.html>

**NEW QUESTION 74**

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

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

**Answer: D**

**Explanation:**

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

**NEW QUESTION 79**

A company's production environment uses an AWS CodeDeploy blue/green deployment to deploy an application. The deployment includes Amazon EC2 Auto Scaling groups that launch instances that run Amazon Linux 2.

A working `appspec.yml` file exists in the code repository and contains the following text.

```
version: 0.0
os: linux
files:
  - source: /
    destination: /var/www/html/application
```

A DevOps engineer needs to ensure that a script downloads and installs a license file onto the instances before the replacement instances start to handle request traffic. The DevOps engineer adds a `hooks` section to the `appspec.yml` file.

Which hook should the DevOps engineer use to run the script that downloads and installs the license file?

- A. `AfterBlockTraffic`
- B. `BeforeBlockTraffic`
- C. `BeforeInstall`
- D. `DownloadBundle`

**Answer: C**

**Explanation:**

This hook runs before the new application version is installed on the replacement instances. This is the best place to run the script because it ensures that the license file is downloaded and installed before the replacement instances start to handle request traffic. If you use any other hook, you may encounter errors or inconsistencies in your application.

**NEW QUESTION 84**

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

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

Which solution will meet these requirements?

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

**Answer: C**

**Explanation:**

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



#### NEW QUESTION 85

A company recently migrated its legacy application from on-premises to AWS. The application is hosted on Amazon EC2 instances behind an Application Load Balancer which is behind Amazon API Gateway. The company wants to ensure users experience minimal disruptions during any deployment of a new version of the application. The company also wants to ensure it can quickly roll back updates if there is an issue. Which solution will meet these requirements with MINIMAL changes to the application?

- A. Introduce changes as a separate environment parallel to the existing one Configure API Gateway to use a canary release deployment to send a small subset of user traffic to the new environment.
- B. Introduce changes as a separate environment parallel to the existing one Update the application's DNS alias records to point to the new environment.
- C. Introduce changes as a separate target group behind the existing Application Load Balancer Configure API Gateway to route user traffic to the new target group in steps.
- D. Introduce changes as a separate target group behind the existing Application Load Balancer Configure API Gateway to route all traffic to the Application Load Balancer which then sends the traffic to the new target group.

**Answer:** A

#### Explanation:

API Gateway supports canary deployment on a deployment stage before you direct all traffic to that stage. A parallel environment means we will create a new ALB and a target group that will target a new set of EC2 instances on which the newer version of the app will be deployed. So the canary setting associated to the new version of the API will connect with the new ALB instance which in turn will direct the traffic to the new EC2 instances on which the newer version of the application is deployed.

#### NEW QUESTION 88

A company requires its developers to tag all Amazon Elastic Block Store (Amazon EBS) volumes in an account to indicate a desired backup frequency. This requirement Includes EBS volumes that do not require backups. The company uses custom tags named Backup\_Frequency that have values of none, daily, or weekly that correspond to the desired backup frequency. An audit finds that developers are occasionally not tagging the EBS volumes. A DevOps engineer needs to ensure that all EBS volumes always have the Backup\_Frequency tag so that the company can perform backups at least weekly unless a different value is specified. Which solution will meet these requirements?

- A. Set up AWS Config in the account
- B. Create a custom rule that returns a compliance failure for all Amazon EC2 resources that do not have a Backup Frequency tag applied
- C. Configure a remediation action that uses a custom AWS Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly.
- D. Set up AWS Config in the account
- E. Use a managed rule that returns a compliance failure for EC2::Volume resources that do not have a Backup Frequency tag applied
- F. Configure a remediation action that uses a custom AWS Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly.
- G. Turn on AWS CloudTrail in the account
- H. Create an Amazon EventBridge rule that reacts to EBS CreateVolume event
- I. Configure a custom AWS Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly
- J. Specify the runbook as the target of the rule.
- K. Turn on AWS CloudTrail in the account
- L. Create an Amazon EventBridge rule that reacts to EBS CreateVolume events or EBS ModifyVolume event
- M. Configure a custom AWS Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly
- N. Specify the runbook as the target of the rule.

**Answer:** B

#### Explanation:

The following are the steps that the DevOps engineer should take to ensure that all EBS volumes always have the Backup\_Frequency tag so that the company can perform backups at least weekly unless a different value is specified:

- Set up AWS Config in the account.
  - Use a managed rule that returns a compliance failure for EC2::Volume resources that do not have a Backup Frequency tag applied.
  - Configure a remediation action that uses a custom AWS Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly.
- The managed rule AWS::Config::EBSVolumesWithoutBackupTag will return a compliance failure for any EBS volume that does not have the Backup\_Frequency tag applied. The remediation action will then use the Systems Manager Automation runbook to apply the Backup\_Frequency tag with a value of weekly to the EBS volume.

#### NEW QUESTION 89

A company has an on-premises application that is written in Go. A DevOps engineer must move the application to AWS. The company's development team wants to enable blue/green deployments and perform A/B testing. Which solution will meet these requirements?

- A. Deploy the application on an Amazon EC2 instance, and create an AMI of the instance
- B. Use the AMI to create an automatic scaling launch configuration that is used in an Auto Scaling group
- C. Use Elastic Load Balancing to distribute traffic
- D. When changes are made to the application, a new AMI will be created, which will initiate an EC2 instance refresh.
- E. Use Amazon Lightsail to deploy the application
- F. Store the application in a zipped format in an Amazon S3 bucket
- G. Use this zipped version to deploy new versions of the application to Lightsail
- H. Use Lightsail deployment options to manage the deployment.
- I. Use AWS CodeArtifact to store the application code
- J. Use AWS CodeDeploy to deploy the application to a fleet of Amazon EC2 instances
- K. Use Elastic Load Balancing to distribute the traffic to the EC2 instance
- L. When making changes to the application, upload a new version to CodeArtifact and create a new CodeDeploy deployment.
- M. Use AWS Elastic Beanstalk to host the application
- N. Store a zipped version of the application in Amazon S3. Use that location to deploy new versions of the application
- O. Use Elastic Beanstalk to manage the deployment options.

**Answer:** D

**Explanation:**

<https://aws.amazon.com/quickstart/architecture/blue-green-deployment/>

**NEW QUESTION 91**

A company's DevOps engineer is creating an AWS Lambda function to process notifications from an Amazon Simple Notification Service (Amazon SNS) topic. The Lambda function will process the notification messages and will write the contents of the notification messages to an Amazon RDS Multi-AZ DB instance. During testing a database administrator accidentally shut down the DB instance. While the database was down the company lost several of the SNS notification messages that were delivered during that time.

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

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

**Answer:** CD

**Explanation:**

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

Option C will configure an SQS dead-letter queue for the SNS topic. A dead-letter queue is a queue that receives messages that could not be delivered to any subscriber after a specified number of retries. You can use a dead-letter queue to store and analyze failed messages, or to reprocess them later. This way, you can avoid losing messages that could not be delivered to the Lambda function due to network errors, throttling, or other issues.

Option D will subscribe an SQS queue to the SNS topic and configure the Lambda function to process messages from the SQS queue. This will decouple the SNS topic from the Lambda function and provide more flexibility and control over the message delivery and processing. You can use an SQS queue to store messages from the SNS topic until they are ready to be processed by the Lambda function, and also to retry processing in case of failures. This way, you can avoid losing messages that could not be processed by the Lambda function due to database errors, timeouts, or other issues.

**NEW QUESTION 92**

A company has containerized all of its in-house quality control applications. The company is running Jenkins on Amazon EC2 instances, which require patching and upgrading. The compliance officer has requested a DevOps engineer begin encrypting build artifacts since they contain company intellectual property. What should the DevOps engineer do to accomplish this in the MOST maintainable manner?

- A. Automate patching and upgrading using AWS Systems Manager on EC2 instances and encrypt Amazon EBS volumes by default.
- B. Deploy Jenkins to an Amazon ECS cluster and copy build artifacts to an Amazon S3 bucket with default encryption enabled.
- C. Leverage AWS CodePipeline with a build action and encrypt the artifacts using AWS Secrets Manager.
- D. Use AWS CodeBuild with artifact encryption to replace the Jenkins instance running on EC2 instances.

**Answer:** D

**Explanation:**

The following are the steps involved in accomplishing this in the most maintainable manner:

- Configure CodeBuild to encrypt the build artifacts using AWS Secrets Manager.
- Deploy the containerized quality control applications to CodeBuild.

This approach is the most maintainable because it eliminates the need to manage Jenkins on EC2 instances. CodeBuild is a managed service, so the DevOps engineer does not need to worry about patching or upgrading the service.

<https://docs.aws.amazon.com/codebuild/latest/userguide/security-encryption.html> Build artifact encryption - CodeBuild requires access to an AWS KMS CMK in order to encrypt its build output artifacts. By default, CodeBuild uses an AWS Key Management Service CMK for Amazon S3 in your AWS account. If you do not want to use this CMK, you must create and configure a customer-managed CMK. For more information Creating keys.

**NEW QUESTION 93**

A company's DevOps engineer uses AWS Systems Manager to perform maintenance tasks during maintenance windows. The company has a few Amazon EC2 instances that require a restart after notifications from AWS Health. The DevOps engineer needs to implement an automated solution to remediate these notifications. The DevOps engineer creates an Amazon EventBridge rule.

How should the DevOps engineer configure the EventBridge rule to meet these requirements?

- A. Configure an event source of AWS Health, a service of EC2. and an event type that indicates instance maintenanc
- B. Target a Systems Manager document to restart the EC2 instance.
- C. Configure an event source of Systems Manager and an event type that indicates a maintenance window.Target a Systems Manager document to restart the EC2 instance.
- D. Configure an event source of AWS Health, a service of EC2, and an event type that indicates instance maintenanc
- E. Target a newly created AWS Lambda function that registers an automation task to restart the EC2 instance during a maintenance window.
- F. Configure an event source of EC2 and an event type that indicates instance maintenanc
- G. Target a newly created AWS Lambda function that registers an automation task to restart the EC2 instance during a maintenance window.

**Answer:** C

**Explanation:**

AWS Health provides real-time events and information related to your AWS infrastructure. It can be integrated with Amazon EventBridge to act upon the health events automatically. If the maintenance notification from AWS Health indicates that an EC2 instance requires a restart, you can set up an EventBridge rule to respond to such events. In this case, the target of this rule would be a Lambda function that would trigger a Systems Manager automation to restart the EC2 instance during a maintenance window. Remember, AWS Health is the source of the events (not EC2 or Systems Manager), and AWS Lambda can be used to execute complex remediation tasks, such as scheduling maintenance tasks via Systems Manager.

The following are the steps involved in configuring the EventBridge rule to meet these requirements:

- Configure an event source of AWS Health, a service of EC2, and an event type that indicates instance maintenance.
  - Target a newly created AWS Lambda function that registers an automation task to restart the EC2 instance during a maintenance window.
- The AWS Lambda function will be triggered by the event from AWS Health. The function will then register an automation task to restart the EC2 instance during the next maintenance window.

#### NEW QUESTION 95

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 decommissioned
- 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) queue
- H. Use a group 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 function
- J. Configure the function to add a tag to the EC2 instance that produced the login event and mark the instance to be decommissioned. 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 100

An AWS CodePipeline pipeline has implemented a code release process. The pipeline is integrated with AWS CodeDeploy to deploy versions of an application to multiple Amazon EC2 instances for each CodePipeline stage.

During a recent deployment the pipeline failed due to a CodeDeploy issue. The DevOps team wants to improve monitoring and notifications during deployment to decrease resolution times.

What should the DevOps engineer do to create notifications. When issues are discovered?

- A. Implement Amazon CloudWatch Logs for CodePipeline and CodeDeploy create an AWS Config rule to evaluate code deployment issues, and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- B. Implement Amazon EventBridge for CodePipeline and CodeDeploy create an AWS Lambda function to evaluate code deployment issues, and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- C. Implement AWS CloudTrail to record CodePipeline and CodeDeploy API call information create an AWS Lambda function to evaluate code deployment issues and create an Amazon Simple Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.
- D. Implement Amazon EventBridge for CodePipeline and CodeDeploy create an Amazon
- E. Inspector assessment target to evaluate code deployment issues and create an Amazon Simple
- F. Notification Service (Amazon SNS) topic to notify stakeholders of deployment issues.

**Answer: B**

#### Explanation:

AWS CloudWatch Events can be used to monitor events across different AWS resources, and a CloudWatch Event Rule can be created to trigger an AWS Lambda function when a deployment issue is detected in the pipeline. The Lambda function can then evaluate the issue and send a notification to the appropriate stakeholders through an Amazon SNS topic. This approach allows for real-time notifications and faster resolution times.

#### NEW QUESTION 105

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

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

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

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

**Answer: B**

#### Explanation:

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

#### NEW QUESTION 110

A DevOps engineer is working on a data archival project that requires the migration of on-premises data to an Amazon S3 bucket. The DevOps engineer develops



a script that incrementally archives on-premises data that is older than 1 month to Amazon S3. Data that is transferred to Amazon S3 is deleted from the on-premises location. The script uses the S3 PutObject operation. During a code review the DevOps engineer notices that the script does not verify whether the data was successfully copied to Amazon S3. The DevOps engineer must update the script to ensure that data is not corrupted during transmission. The script must use MD5 checksums to verify data integrity before the on-premises data is deleted. Which solutions for the script will meet these requirements? (Select TWO.)

- A. Check the returned response for the Versioned Compare the returned Versioned against the MD5 checksum.
- B. Include the MD5 checksum within the Content-MD5 parameter
- C. Check the operation call's return status to find out if an error was returned.
- D. Include the checksum digest within the tagging parameter as a URL query parameter.
- E. Check the returned response for the ETag
- F. Compare the returned ETag against the MD5 checksum.
- G. Include the checksum digest within the Metadata parameter as a name-value pair. After upload use the S3 HeadObject operation to retrieve metadata from the object.

**Answer:** BD

**Explanation:**

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/checking-object-integrity.html>

**NEW QUESTION 115**

A DevOps engineer is researching the least expensive way to implement an image batch processing cluster on AWS. The application cannot run in Docker containers and must run on Amazon EC2. The batch job stores checkpoint data on an NFS volume and can tolerate interruptions. Configuring the cluster software from a generic EC2 Linux image takes 30 minutes. What is the MOST cost-effective solution?

- A. Use Amazon EFS (or checkpoint data)
- B. To complete the job, use an EC2 Auto Scaling group and an On-Demand pricing model to provision EC2 instances temporally.
- C. Use GlusterFS on EC2 instances for checkpoint data
- D. To run the batch job configure EC2 instances manually. When the job completes shut down the instances manually.
- E. Use Amazon EFS for checkpoint data. Use EC2 Fleet to launch EC2 Spot Instances and utilize user data to configure the EC2 Linux instance on startup.
- F. Use Amazon EFS for checkpoint data. Use EC2 Fleet to launch EC2 Spot Instances. Create a custom AMI for the cluster and use the latest AMI when creating instances.

**Answer:** D

**NEW QUESTION 116**

A global company manages multiple AWS accounts by using AWS Control Tower. The company hosts internal applications and public applications. Each application team in the company has its own AWS account for application hosting. The accounts are consolidated in an organization in AWS Organizations. One of the AWS Control Tower member accounts serves as a centralized DevOps account with CI/CD pipelines that application teams use to deploy applications to their respective target AWS accounts. An IAM role for deployment exists in the centralized DevOps account. An application team is attempting to deploy its application to an Amazon Elastic Kubernetes Service (Amazon EKS) cluster in an application AWS account. An IAM role for deployment exists in the application AWS account. The deployment is through an AWS CodeBuild project that is set up in the centralized DevOps account. The CodeBuild project uses an IAM service role for CodeBuild. The deployment is failing with an Unauthorized error during attempts to connect to the cross-account EKS cluster from CodeBuild. Which solution will resolve this error?

- A. Configure the application account's deployment IAM role to have a trust relationship with the centralized DevOps account
- B. Configure the trust relationship to allow the sts:AssumeRole action
- C. Configure the application account's deployment IAM role to have the required access to the EKS cluster
- D. Configure the EKS cluster aws-auth ConfigMap to map the role to the appropriate system permissions.
- E. Configure the centralized DevOps account's deployment IAM role to have a trust relationship with the application account
- F. Configure the trust relationship to allow the sts:AssumeRole action
- G. Configure the centralized DevOps account's deployment IAM role to allow the required access to CodeBuild.
- H. Configure the centralized DevOps account's deployment IAM role to have a trust relationship with the application account
- I. Configure the trust relationship to allow the sts:AssumeRoleWithSAML action
- J. Configure the centralized DevOps account's deployment IAM role to allow the required access to CodeBuild.
- K. Configure the application account's deployment IAM role to have a trust relationship with the AWS Control Tower management account
- L. Configure the trust relationship to allow the sts:AssumeRole action
- M. Configure the application account's deployment IAM role to have the required access to the EKS cluster
- N. Configure the EKS cluster aws-auth ConfigMap to map the role to the appropriate system permissions.

**Answer:** A

**Explanation:**

In the source AWS account, the IAM role used by the CI/CD pipeline should have permissions to access the source code repository, build artifacts, and any other resources required for the build process. In the destination AWS accounts, the IAM role used for deployment should have permissions to access the AWS resources required for deploying the application, such as EC2 instances, RDS databases, S3 buckets, etc. The exact permissions required will depend on the specific resources being used by the application. The IAM role used for deployment in the destination accounts should also have permissions to assume the IAM role for deployment in the centralized DevOps account. This is typically done using an IAM role trust policy that allows the destination account to assume the DevOps account role.

**NEW QUESTION 117**

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

- A. Create a replication IAM role in the source account
- B. Create a replication IAM role in the target account.

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

**Answer:** ADE

**Explanation:**

S3 cross-Region replication (CRR) automatically replicates data between buckets across different AWS Regions. To enable CRR, you need to add a replication configuration to your source bucket that specifies the destination bucket, the IAM role, and the encryption type (optional). You also need to grant permissions to the IAM role to perform replication actions on both the source and destination buckets. Additionally, you can choose the destination storage class and enable additional replication options such as S3 Replication Time Control (S3 RTC) or S3 Batch Replication.

<https://medium.com/cloud-techies/s3-same-region-replication-srr-and-cross-region-replication-crr-34d446806ba> <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 118**

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

How should a DevOps engineer meet these requirements?

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

**Answer:** A

**NEW QUESTION 122**

A company runs an application with an Amazon EC2 and on-premises configuration. A DevOps engineer needs to standardize patching across both environments. Company policy dictates that patching only happens during non-business hours.

Which combination of actions will meet these requirements? (Choose three.)

- A. Add the physical machines into AWS Systems Manager using Systems Manager Hybrid Activations.
- B. Attach an IAM role to the EC2 instances, allowing them to be managed by AWS Systems Manager.
- C. Create IAM access keys for the on-premises machines to interact with AWS Systems Manager.
- D. Run an AWS Systems Manager Automation document to patch the systems every hour.
- E. Use Amazon EventBridge scheduled events to schedule a patch window.
- F. Use AWS Systems Manager Maintenance Windows to schedule a patch window.

**Answer:** ABF

**Explanation:**

<https://docs.aws.amazon.com/systems-manager/latest/userguide/sysman-managed-instance-activation.html>

**NEW QUESTION 124**

A company is building a new pipeline by using AWS CodePipeline and AWS CodeBuild in a build account. The pipeline consists of two stages. The first stage is a CodeBuild job to build and package an AWS Lambda function. The second stage consists of deployment actions that operate on two different AWS accounts: a development environment account and a production environment account. The deployment stages use the AWS CloudFormation action that CodePipeline invokes to deploy the infrastructure that the Lambda function requires.

A DevOps engineer creates the CodePipeline pipeline and configures the pipeline to encrypt build artifacts by using the AWS Key Management Service (AWS KMS) AWS managed key for Amazon S3 (the aws/s3 key). The artifacts are stored in an S3 bucket. When the pipeline runs, the CloudFormation actions fail with an access denied error.

Which combination of actions must the DevOps engineer perform to resolve this error? (Select TWO.)

- A. Create an S3 bucket in each AWS account for the artifacts. Allow the pipeline to write to the S3 buckets. Create a CodePipeline S3 action to copy the artifacts to the S3 bucket in each AWS account. Update the CloudFormation actions to reference the artifacts S3 bucket in the production account.
- B. Create a customer managed KMS key. Configure the KMS key policy to allow the IAM roles used by the CloudFormation action to perform decrypt operations. Modify the pipeline to use the customer managed KMS key to encrypt artifacts.
- C. Create an AWS managed KMS key. Configure the KMS key policy to allow the development account and the production account to perform decrypt operations.
- D. Modify the pipeline to use the KMS key to encrypt artifacts.
- E. In the development account and in the production account, create an IAM role for CodePipeline. Configure the roles with permissions to perform CloudFormation operations and with permissions to retrieve and decrypt objects from the artifacts S3 bucket.
- F. In the CodePipeline account, configure the CodePipeline CloudFormation action to use the roles.
- G. In the development account and in the production account, create an IAM role for CodePipeline. Configure the roles with permissions to perform CloudFormation operations and with permissions to retrieve and decrypt objects from the artifacts S3 bucket.
- H. In the CodePipeline account, modify the artifacts S3 bucket policy to allow the roles access. Configure the CodePipeline CloudFormation action to use the roles.

**Answer:** BE

**NEW QUESTION 127**

A company has a single AWS account that runs hundreds of Amazon EC2 instances in a single AWS Region. New EC2 instances are launched and terminated

each hour in the account. The account also includes existing EC2 instances that have been running for longer than a week. The company's security policy requires all running EC2 instances to use an EC2 instance profile. If an EC2 instance does not have an instance profile attached, the EC2 instance must use a default instance profile that has no IAM permissions assigned. A DevOps engineer reviews the account and discovers EC2 instances that are running without an instance profile. During the review, the DevOps engineer also observes that new EC2 instances are being launched without an instance profile. Which solution will ensure that an instance profile is attached to all existing and future EC2 instances in the Region?

- A. Configure an Amazon EventBridge rule that reacts to EC2 RunInstances API call
- B. Configure the rule to invoke an AWS Lambda function to attach the default instance profile to the EC2 instances.
- C. Configure the ec2-instance-profile-attached AWS Config managed rule with a trigger type of configuration change
- D. Configure an automatic remediation action that invokes an AWS Systems Manager Automation runbook to attach the default instance profile to the EC2 instances.
- E. Configure an Amazon EventBridge rule that reacts to EC2 StartInstances API call
- F. Configure the rule to invoke an AWS Systems Manager Automation runbook to attach the default instance profile to the EC2 instances.
- G. Configure the iam-role-managed-policy-check AWS Config managed rule with a trigger type of configuration change
- H. Configure an automatic remediation action that invokes an AWS Lambda function to attach the default instance profile to the EC2 instances.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/config/latest/developerguide/ec2-instance-profile-attached.html>

**NEW QUESTION 130**

An online retail company based in the United States plans to expand its operations to Europe and Asia in the next six months. Its product currently runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Amazon EC2 Auto Scaling group across multiple Availability Zones. All data is stored in an Amazon Aurora database instance.

When the product is deployed in multiple regions, the company wants a single product catalog across all regions, but for compliance purposes, its customer information and purchases must be kept in each region.

How should the company meet these requirements with the LEAST amount of application changes?

- A. Use Amazon Redshift for the product catalog and Amazon DynamoDB tables for the customer information and purchases.
- B. Use Amazon DynamoDB global tables for the product catalog and regional tables for the customer information and purchases.
- C. Use Aurora with read replicas for the product catalog and additional local Aurora instances in each region for the customer information and purchases.
- D. Use Aurora for the product catalog and Amazon DynamoDB global tables for the customer information and purchases.

**Answer:** C

**NEW QUESTION 131**

A company updated the AWS CloudFormation template for a critical business application. The stack update process failed due to an error in the updated template and AWS CloudFormation automatically began the stack rollback process. Later a DevOps engineer discovered that the application was still unavailable and that the stack was in the UPDATE\_ROLLBACK\_FAILED state.

Which combination of actions should the DevOps engineer perform so that the stack rollback can complete successfully? (Select TWO.)

- A. Attach the AWS CloudFormation FullAccess IAM policy to the AWS CloudFormation role.
- B. Automatically recover the stack resources by using AWS CloudFormation drift detection.
- C. Issue a ContinueUpdateRollback command from the AWS CloudFormation console or the AWS CLI.
- D. Manually adjust the resources to match the expectations of the stack.
- E. Update the existing AWS CloudFormation stack by using the original template.

**Answer:** CD

**Explanation:**

<https://docs.aws.amazon.com/cli/latest/reference/cloudformation/continue-update-rollback.html> For a specified stack that is in the UPDATE\_ROLLBACK\_FAILED state, continues rolling it back to the UPDATE\_ROLLBACK\_COMPLETE state. Depending on the cause of the failure, you can manually fix the error and continue the rollback. By continuing the rollback, you can return your stack to a working state (the UPDATE\_ROLLBACK\_COMPLETE state), and then try to update the stack again.

**NEW QUESTION 132**

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 application. Use AWS CodeDeploy to deploy the Lambda functions with the Canary10Percent15Minutes Deployment Preference Type
- B. Use Amazon CloudWatch alarms to monitor the health of the functions.
- C. Use AWS CloudFormation to publish a new stack update, and include Amazon CloudWatch alarms on all resource
- D. Set up an AWS CodePipeline approval action for a developer to verify and approve the AWS CloudFormation change set.
- E. Use AWS CloudFormation to publish a new version on every stack update, and include Amazon CloudWatch alarms on all resource
- F. Use the RoutingConfig property of the AWS::Lambda::Alias resource to update the traffic routing during the stack update.
- G. Use AWS CodeBuild to add sample event payloads for testing to the Lambda function
- H. Publish a new version of the functions, and include Amazon CloudWatch alarm
- I. Update the production alias to point to the new version
- J. 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 134

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

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

**Answer: B**

#### Explanation:

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

#### NEW QUESTION 138

A development team uses AWS CodeCommit, AWS CodePipeline, and AWS CodeBuild to develop and deploy an application. Changes to the code are submitted by pull requests. The development team reviews and merges the pull requests, and then the pipeline builds and tests the application.

Over time, the number of pull requests has increased. The pipeline is frequently blocked because of failing tests. To prevent this blockage, the development team wants to run the unit and integration tests on each pull request before it is merged.

Which solution will meet these requirements?

- A. Create a CodeBuild project to run the unit and integration test.
- B. Create a CodeCommit approval rule template.
- C. Configure the template to require the successful invocation of the CodeBuild project.
- D. Attach the approval rule to the project's CodeCommit repository.
- E. Create an Amazon EventBridge rule to match pullRequestCreated events from CodeCommit. Create a CodeBuild project to run the unit and integration test.
- F. Configure the CodeBuild project as a target of the EventBridge rule that includes a custom event payload with the CodeCommit repository and branch information from the event.
- G. Create an Amazon EventBridge rule to match pullRequestCreated events from CodeCommit.
- H. Modify the existing CodePipeline pipeline to not run the deploy steps if the build is started from a pull request.
- I. Configure the EventBridge rule to run the pipeline with a custom payload that contains the CodeCommit repository and branch information from the event.
- J. Create a CodeBuild project to run the unit and integration test.
- K. Create a CodeCommit notification rule that matches when a pull request is created or updated.
- L. Configure the notification rule to invoke the CodeBuild project.

**Answer: B**

#### Explanation:

CodeCommit generates events in CloudWatch, CloudWatch triggers the CodeBuild project. <https://aws.amazon.com/es/blogs/devops/complete-ci-cd-with-aws-codecommit-aws-codebuild-aws-codedeploy/>

#### NEW QUESTION 141

A business has an application that consists of five independent AWS Lambda functions.

The DevOps engineer has built a CI/CD pipeline using AWS CodePipeline and AWS CodeBuild that builds test packages and deploys each Lambda function in sequence. The pipeline uses an Amazon EventBridge rule to ensure the pipeline starts as quickly as possible after a change is made to the application source code.

After working with the pipeline for a few months, the DevOps engineer has noticed the pipeline takes too long to complete.

What should the DevOps engineer implement to BEST improve the speed of the pipeline?

- A. Modify the CodeBuild projects within the pipeline to use a compute type with more available network throughput.

- B. Create a custom CodeBuild execution environment that includes a symmetric multiprocessing configuration to run the builds in parallel.
- C. Modify the CodePipeline configuration to run actions for each Lambda function in parallel by specifying the same runorder.
- D. Modify each CodeBuild protect to run within a VPC and use dedicated instances to increase throughput.

**Answer: C**

**Explanation:**

<https://docs.aws.amazon.com/codepipeline/latest/userguide/reference-pipeline-structure.html>

AWS doc: "To specify parallel actions, use the same integer for each action you want to run in parallel. For example, if you want three actions to run in sequence in a stage, you would give the first action the runOrder value of 1, the second action the runOrder value of 2, and the third the runOrder value of 3. However, if you want the second and third actions to run in parallel, you would give the first action the runOrder value of 1 and both the second and third actions the runOrder value of 2."

**NEW QUESTION 142**

A company manages an application that stores logs in Amazon CloudWatch Logs. The company wants to archive the logs to an Amazon S3 bucket Logs are rarely accessed after 90 days and must be retained for 10 years.

Which combination of steps should a DevOps engineer take to meet these requirements? (Select TWO.)

- A. Configure a CloudWatch Logs subscription filter to use AWS Glue to transfer all logs to an S3 bucket.
- B. Configure a CloudWatch Logs subscription filter to use Amazon Kinesis Data Firehose to stream all logs to an S3 bucket.
- C. Configure a CloudWatch Logs subscription filter to stream all logs to an S3 bucket.
- D. Configure the S3 bucket lifecycle policy to transition logs to S3 Glacier after 90 days and to expire logs after 3.650 days.
- E. Configure the S3 bucket lifecycle policy to transition logs to Reduced Redundancy after 90 days and to expire logs after 3.650 days.

**Answer: BD**

**Explanation:**

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

**NEW QUESTION 145**

A highly regulated company has a policy that DevOps engineers should not log in to their Amazon EC2 instances except in emergencies. If a DevOps engineer does log in the security team must be notified within 15 minutes of the occurrence.

Which solution will meet these requirements?

- A. Install the Amazon Inspector agent on each EC2 instance Subscribe to Amazon EventBridge notifications Invoke an AWS Lambda function to check if a message is about user logins If it send a notification to the security team using Amazon SNS.
- B. Install the Amazon CloudWatch agent on each EC2 instance Configure the agent to push all logs to Amazon CloudWatch Logs and set up a CloudWatch metric filter that searches for user login
- C. If a login is found send a notification to the security team using Amazon SNS.
- D. Set up AWS CloudTrail with Amazon CloudWatch Log
- E. Subscribe CloudWatch Logs to Amazon Kinesis Attach AWS Lambda to Kinesis to parse and determine if a log contains a user login If it does, send a notification to the security team using Amazon SNS.
- F. Set up a script on each Amazon EC2 instance to push all logs to Amazon S3 Set up an S3 event to invoke an AWS Lambda function which invokes an Amazon Athena query to ru
- G. The Athena query checks for logins and sends the output to the security team using Amazon SNS.

**Answer: B**

**Explanation:**

<https://aws.amazon.com/blogs/security/how-to-monitor-and-visualize-failed-ssh-access-attempts-to-amazon-ec2>

**NEW QUESTION 148**

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 Change
- B. Publish subscription events to an Amazon Simple Notification Service (Amazon SNS) topic
- 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 Change. Publish the events to an Amazon Simple Notification Service (Amazon SNS) topic
- G. Create an AWS Lambda function that sends event details to the chat webhook URL
- H. Subscribe the function to the SNS topic.
- I. Modify the pipeline code to send the event details to the chat webhook URL at the end of each stage. 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 149**

An Amazon EC2 instance is running in a VPC and needs to download an object from a restricted Amazon S3 bucket. When the DevOps engineer tries to download the object, an AccessDenied error is received,

What are the possible causes for this error? (Select TWO,)

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

**Answer:** BD

**Explanation:**

These are the possible causes for the AccessDenied error because they affect the permissions to access the S3 object from the EC2 instance. An S3 bucket policy is a resource-based policy that defines who can access the bucket and its objects, and what actions they can perform. An IAM role is an identity that can be assumed by an EC2 instance to grant it permissions to access AWS services and resources. If there is an error in the S3 bucket policy or the IAM role configuration, such as a missing or incorrect statement, condition, or principal, then the EC2 instance may not have the necessary permissions to download the object from the S3 bucket .

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/example-bucket-policies.html> <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html>

**NEW QUESTION 152**

A company has many AWS accounts. During AWS account creation the company uses automation to create an Amazon CloudWatch Logs log group in every AWS Region that the company operates in. The automaton configures new resources in the accounts to publish logs to the provisioned log groups in their Region. The company has created a logging account to centralize the logging from all the other accounts. A DevOps engineer needs to aggregate the log groups from all the accounts to an existing Amazon S3 bucket in the logging account.

Which solution will meet these requirements in the MOST operationally efficient manner?

- A. In the logging account create a CloudWatch Logs destination with a destination policy
- B. For each new account subscribe the CloudWatch Logs log groups to the destination
- C. Destination Configure a single Amazon Kinesis data stream and a single Amazon Kinesis Data Firehose delivery stream to deliver the logs from the CloudWatch Logs destination to the S3 bucket.
- D. In the logging account create a CloudWatch Logs destination with a destination policy for each Region. For each new account subscribe the CloudWatch Logs log groups to the destination
- E. Configure a single Amazon Kinesis data stream and a single Amazon Kinesis Data Firehose delivery stream to deliver the logs from all the CloudWatch Logs destinations to the S3 bucket.
- F. In the logging account create a CloudWatch Logs destination with a destination policy for each Region. For each new account subscribe the CloudWatch Logs log groups to the destination. Configure an Amazon Kinesis data stream and an Amazon Kinesis Data Firehose delivery stream for each Region to deliver the logs from the CloudWatch Logs destinations to the S3 bucket.
- G. In the logging account create a CloudWatch Logs destination with a destination policy
- H. For each new account subscribe the CloudWatch Logs log groups to the destination
- I. Configure a single Amazon Kinesis data stream to deliver the logs from the CloudWatch Logs destination to the S3 bucket.

**Answer:** C

**Explanation:**

This solution will meet the requirements in the most operationally efficient manner because it will use CloudWatch Logs destination to aggregate the log groups from all the accounts to a single S3 bucket in the logging account. However, unlike option A, this solution will create a CloudWatch Logs destination for each region, instead of a single destination for all regions. This will improve the performance and reliability of the log delivery, as it will avoid cross-region data transfer and latency issues. Moreover, this solution will use an Amazon Kinesis data stream and an Amazon Kinesis Data Firehose delivery stream for each region, instead of a single stream for all regions. This will also improve the scalability and throughput of the log delivery, as it will avoid bottlenecks and throttling issues that may occur with a single stream.

**NEW QUESTION 157**

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

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

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

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

**Answer:** CEF

**Explanation:**

<https://aws.amazon.com/blogs/mt/how-to-centrally-manage-aws-iot-greengrass-devices-using-aws-systems-man>

**NEW QUESTION 160**

A company's application development team uses Linux-based Amazon EC2 instances as bastion hosts. Inbound SSH access to the bastion hosts is restricted to



specific IP addresses, as defined in the associated security groups. The company's security team wants to receive a notification if the security group rules are modified to allow SSH access from any IP address.

What should a DevOps engineer do to meet this requirement?

- A. Create an Amazon EventBridge rule with a source of aws.cloudtrail and the event name AuthorizeSecurityGroupIngres
- B. Define an Amazon Simple Notification Service (Amazon SNS) topic as the target.
- C. Enable Amazon GuardDuty and check the findings for security groups in AWS Security Hub
- D. Configure an Amazon EventBridge rule with a custom pattern that matches GuardDuty events with an output of NON\_COMPLIANT
- E. Define an Amazon Simple Notification Service (Amazon SNS) topic as the target.
- F. Create an AWS Config rule by using the restricted-ssh managed rule to check whether security groups disallow unrestricted incoming SSH traffic
- G. Configure automatic remediation to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic.
- H. Enable Amazon Inspector
- I. Include the Common Vulnerabilities and Exposures-1.1 rules package to check the security groups that are associated with the bastion host
- J. Configure Amazon Inspector to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/premiumsupport/knowledge-center/monitor-security-group-changes-ec2/>

**NEW QUESTION 161**

A company has an application that runs on a fleet of Amazon EC2 instances. The application requires frequent restarts. The application logs contain error messages when a restart is required. The application logs are published to a log group in Amazon CloudWatch Logs.

An Amazon CloudWatch alarm notifies an application engineer through an Amazon Simple Notification Service (Amazon SNS) topic when the logs contain a large number of restart-related error messages. The application engineer manually restarts the application on the instances after the application engineer receives a notification from the SNS topic.

A DevOps engineer needs to implement a solution to automate the application restart on the instances without restarting the instances.

Which solution will meet these requirements in the MOST operationally efficient manner?

- A. Configure an AWS Systems Manager Automation runbook that runs a script to restart the application on the instance
- B. Configure the SNS topic to invoke the runbook.
- C. Create an AWS Lambda function that restarts the application on the instance
- D. Configure the Lambda function as an event destination of the SNS topic.
- E. Configure an AWS Systems Manager Automation runbook that runs a script to restart the application on the instance
- F. Create an AWS Lambda function to invoke the runbook
- G. Configure the Lambda function as an event destination of the SNS topic.
- H. Configure an AWS Systems Manager Automation runbook that runs a script to restart the application on the instance
- I. Configure an Amazon EventBridge rule that reacts when the CloudWatch alarm enters ALARM state
- J. Specify the runbook as a target of the rule.

**Answer:** D

**Explanation:**

This solution meets the requirements in the most operationally efficient manner by automating the application restart process on the instances without restarting them. When the CloudWatch alarm enters the ALARM state, the EventBridge rule is triggered, which in turn invokes the Systems Manager Automation runbook that contains the script to restart the application on the instances.

**NEW QUESTION 164**

A company has an application that runs on Amazon EC2 instances that are in an Auto Scaling group. When the application starts up, the application needs to process data from an Amazon S3 bucket before the application can start to serve requests.

The size of the data that is stored in the S3 bucket is growing. When the Auto Scaling group adds new instances, the application now takes several minutes to download and process the data before the application can serve requests. The company must reduce the time that elapses before new EC2 instances are ready to serve requests.

Which solution is the MOST cost-effective way to reduce the application startup time?

- A. Configure a warm pool for the Auto Scaling group with warmed EC2 instances in the Stopped state. Configure an autoscaling:EC2\_INSTANCE\_LAUNCHING lifecycle hook on the Auto Scaling group
- B. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- C. Increase the maximum instance count of the Auto Scaling group
- D. Configure an autoscaling:EC2\_INSTANCE\_LAUNCHING lifecycle hook on the Auto Scaling group
- E. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- F. Configure a warm pool for the Auto Scaling group with warmed EC2 instances in the Running state. Configure an autoscaling:EC2\_INSTANCE\_LAUNCHING lifecycle hook on the Auto Scaling group
- G. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- H. Increase the maximum instance count of the Auto Scaling group
- I. Configure an autoscaling:EC2\_INSTANCE\_LAUNCHING lifecycle hook on the Auto Scaling group
- J. Modify the application to complete the lifecycle hook and to place the new instance in the Standby state when the application is ready to serve requests.

**Answer:** A

**Explanation:**

Option A is the most cost-effective solution. By configuring a warm pool of EC2 instances in the Stopped state, the company can reduce the time it takes for new instances to be ready to serve requests. When the Auto Scaling group launches a new instance, it can attach the stopped EC2 instance from the warm pool. The instance can then be started up immediately, rather than having to wait for the data to be downloaded and processed. This reduces the overall startup time for the application.

**NEW QUESTION 165**

A company hosts its staging website using an Amazon EC2 instance backed with Amazon EBS storage. The company wants to recover quickly with minimal data losses in the event of network connectivity issues or power failures on the EC2 instance.

Which solution will meet these requirements?

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

**Answer:** C

**Explanation:**

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

**NEW QUESTION 167**

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

Which solution will meet these requirements?

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

**Answer:** D

**Explanation:**

<https://aws.amazon.com/blogs/devops/how-to-test-and-debug-aws-codedeploy-locally-before-you-ship-your-cod>

**NEW QUESTION 169**

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.htm>

<https://docs.aws.amazon.com/xray/latest/devguide/xray-api-sendingdata.html>

**NEW QUESTION 173**

A DevOps engineer used an AWS Cloud Formation custom resource to set up AD Connector. The AWS Lambda function ran and created AD Connector, but Cloud Formation is not transitioning from CREATE\_IN\_PROGRESS to CREATE\_COMPLETE.

Which action should the engineer take to resolve this issue?

- A. Ensure the Lambda function code has exited successfully.
- B. Ensure the Lambda function code returns a response to the pre-signed URL.
- C. Ensure the Lambda function IAM role has cloudformation UpdateStack permissions for the stack ARN.
- D. Ensure the Lambda function IAM role has ds ConnectDirectory permissions for the AWS account.

**Answer:** B

**NEW QUESTION 177**

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