

Exam Questions DOP-C02

AWS Certified DevOps Engineer - Professional

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NEW QUESTION 1

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 maintenance.
- 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.
- D. Target a Systems Manager document to restart the EC2 instance.
- E. Configure an event source of AWS Health, a service of EC2, and an event type that indicates instance maintenance.
- F. Target a newly created AWS Lambda function that registers an automation task to restart the EC2 instance during a maintenance window.
- G. Configure an event source of EC2 and an event type that indicates instance maintenance.
- H. 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 2

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

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

- A. Create an AWS CloudFormation template that defines the standard account resource.
- B. Deploy the template to all accounts from the organization's management account by using CloudFormation StackSet.
- C. Set the stack policy to deny Update/Delete actions.
- D. Enable AWS Control Tower.
- E. Enroll the existing accounts in AWS Control Tower.
- F. Grant the individual account administrators access to CloudTrail and AWS Config.
- G. Designate an AWS Config management account.
- H. Create AWS Config recorders in all accounts by using AWS CloudFormation StackSet.
- I. Deploy AWS Config rules to the organization by using the AWS Config management account.
- J. Create a CloudTrail organization trail in the organization's management account.
- K. Deny modification or deletion of the AWS Config recorders by using an SCP.
- L. Create an AWS CloudFormation template that defines the standard account resource.
- M. Deploy the template to all accounts from the organization's management account by using CloudFormation StackSets. Create an SCP that prevents updates or deletions to CloudTrail resources or AWS Config resources unless the principal is an administrator of the organization's management account.

Answer: D

NEW QUESTION 3

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

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

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

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

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

NEW QUESTION 4

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 5

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

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

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

Answer: A

Explanation:

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

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

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

NEW QUESTION 6

A company has a new AWS account that teams will use to deploy various applications. The teams will create many Amazon S3 buckets for application-specific purposes and to store AWS CloudTrail logs. The company has enabled Amazon Macie for the account.

A DevOps engineer needs to optimize the Macie costs for the account without compromising the account's functionality.

Which solutions will meet these requirements? (Select TWO.)

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

Answer: AD

Explanation:

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

NEW QUESTION 7

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

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

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

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

Answer: BCF

Explanation:

? To aggregate logs from multiple accounts in an organization, the DevOps engineer needs to create a cross-account subscription¹ that allows the monitoring account to receive log events from the sharing accounts.

? To enable cross-account subscription, the DevOps engineer needs to create an IAM role in each sharing account that grants permission to CloudWatch Logs to link the log groups to the destination in the monitoring account². This can be done using a CloudFormation template and StackSets³ to deploy the role to all accounts in the organization.

? The DevOps engineer also needs to create an IAM role in the monitoring account that allows CloudWatch Logs to create a sink for receiving log events from other accounts⁴. The role must have a trust policy that specifies the organization ID as a condition.

? Finally, the DevOps engineer needs to attach the CloudWatchLogsReadOnlyAccess policy⁵ to an IAM role in the monitoring account that can be used to search the logs from the cross-account subscription.

References: 1: Cross-account log data sharing with subscriptions 2: Create an IAM role for CloudWatch Logs in each sharing account 3: AWS CloudFormation StackSets 4: Create an IAM role for CloudWatch Logs in your monitoring account 5: CloudWatchLogsReadOnlyAccess policy

NEW QUESTION 8

A company uses AWS CodePipeline pipelines to automate releases of its application. A typical pipeline consists of three stages: build, test, and deployment. The company has been using a separate AWS CodeBuild project to run scripts for each stage. However, the company now wants to use AWS CodeDeploy to handle the deployment stage of the pipelines.

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

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

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

Answer: AD

Explanation:

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

NEW QUESTION 9

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

Answer: B

Explanation:

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

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

NEW QUESTION 10

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

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

Answer: ACE

NEW QUESTION 10

A company is launching an application. The application must use only approved AWS services. The account that runs the application was created less than 1 year ago and is assigned to an AWS Organizations OU.

The company needs to create a new Organizations account structure. The account structure must have an appropriate SCP that supports the use of only services that are currently active in the AWS account.

The company will use AWS Identity and Access Management (IAM) Access Analyzer in the solution.

Which solution will meet these requirements?

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

Answer: A

Explanation:

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

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

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

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

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

References:

? 1: Using AWS Identity and Access Management Access Analyzer - AWS Identity and Access Management

? 2: Generate a policy based on access activity - AWS Identity and Access Management

? 3: Organizing your accounts into OUs - AWS Organizations

? 4: Service control policies - AWS Organizations

? 5: How SCPs work - AWS Organizations

NEW QUESTION 11

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

Answer: CEF

Explanation:

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

NEW QUESTION 13

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

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

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

Which solution will meet these requirements?

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

Answer: A

Explanation:

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

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

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

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

NEW QUESTION 14

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 18

A company has multiple AWS accounts. The company uses AWS IAM Identity Center (AWS Single Sign-On) that is integrated with AWS Toolkit for Microsoft Azure DevOps. The attributes for access control feature is enabled in IAM Identity Center.

The attribute mapping list contains two entries. The department key is mapped to

`${path:enterprise.department}`. The costCenter key is mapped to

`${path:enterprise.costCenter}`.

All existing Amazon EC2 instances have a department tag that corresponds to three company departments (d1, d2, d3). A DevOps engineer must create policies based on the matching attributes. The policies must minimize administrative effort and must grant each Azure AD user access to only the EC2 instances that are tagged with the user's respective department name.

Which condition key should the DevOps engineer include in the custom permissions policies to meet these requirements?

A.

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

B.

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

C.

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

D.

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

A.

Answer: C

Explanation:

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

NEW QUESTION 23

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 27

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 32

A company's development team uses AVMS Cloud Formation to deploy its application resources The team must use for an changes to the environment The team cannot use AWS Management Console or the AWS CLI to make manual changes directly.

The team uses a developer IAM role to access the environment The role is configured with the Admnistratoraccess managed policy. The company has created a new Cloudformationdeployment IAM role that has the following policy.

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

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

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

Answer: ADF

Explanation:

A comprehensive and detailed explanation is:

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

CloudFormation will use that role's credentials for all operations that are performed on that stack1.

? Option B is incorrect because updating the trust of CloudFormationDeployment role to allow the developer IAM role to assume the CloudFormationDeployment role is not a valid solution. This would allow the developers to manually assume the CloudFormationDeployment role and perform actions on the deployed resources, which is not what the company wants. The trust of CloudFormationDeployment role should only allow the cloudformation.amazonaws.com AWS principal to assume the role, as in option D.

? Option C is incorrect because configuring the IAM user to be able to get and pass the CloudFormationDeployment role if cloudformation actions for resources is not a valid solution. This would allow the developers to manually pass the CloudFormationDeployment role to other services or resources, which is not what the company wants. The IAM user should only be able to pass the CloudFormationDeployment role as a service role when they create or update a stack with CloudFormation, as in option A.

? Option D is correct because updating the trust of CloudFormationDeployment role

to allow the cloudformation.amazonaws.com AWS principal to perform the iam:AssumeRole action is a valid solution. This allows CloudFormation to assume the CloudFormationDeployment role and access resources in other services on behalf of the user2. The trust policy of an IAM role defines which entities can assume the role2. By specifying cloudformation.amazonaws.com as the principal, you grant permission only to CloudFormation to assume this role.

? Option E is incorrect because instructing the developers to assume the

CloudFormationDeployment role when they deploy new stacks is not a valid solution. This would allow the developers to manually assume the CloudFormationDeployment role and perform actions on the deployed resources, which is not what the company wants. The developers should only use the CloudFormationDeployment role as a service role when they deploy new stacks with CloudFormation, as in option A.

? Option F is correct because adding an IAM policy to CloudFormationDeployment

that allows cloudformation:* on all resources and adding a policy that allows the iam:PassRole action for ARN of CloudFormationDeployment if

iam:PassedToService equals cloudformation.amazonaws.com are valid solutions. The first policy grants permission for CloudFormationDeployment to perform any action with any resource using cloudformation.amazonaws.com as a service principal3. The second policy grants permission for passing this role only if it is passed by cloudformation.amazonaws.com as a service principal4. This ensures that only CloudFormation can use this role.

References:

? 1: AWS CloudFormation service roles

? 2: How to use trust policies with IAM roles

? 3: AWS::IAM::Policy

? 4: IAM: Pass an IAM role to a specific AWS service

NEW QUESTION 33

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 37

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

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

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

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

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

A. Update the SAML assertion to pass the user's team name

B. Update the IAM role's trust policy to add an access-team session tag that has the team name.

C. Create an approval rule template for each team in the Organizations management account

D. Associate the template with all the repositories

E. Add the developer role ARN as an approver.

F. Create an approval rule template for each account

G. Associate the template with all repositories

H. Add the "aws:ResourceTag/access-team":"\$;{aws:PrincipalTag/access-team}" condition to the approval rule template.

I. For each CodeCommit repository, add an access-team tag that has the value set to the name of the associated team.

J. Attach an SCP to the account

K. Include the following statement:

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

L. Create an IAM permissions boundary in each account

M. Include the following statement: {

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

Answer: ADF

Explanation:

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

References:

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

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

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

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

? The other options are incorrect because:

NEW QUESTION 39

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. Configure a remediation

- action that uses a custom AWS Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly.
- C. Set up AWS Config in the account
 - D. Use a managed rule that returns a compliance failure for EC2::Volume resources that do not have a Backup Frequency tag applied
 - E. Configure a remediation action that uses a custom AWS Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly.
 - F. Turn on AWS CloudTrail in the account
 - G. Create an Amazon EventBridge rule that reacts to EBS CreateVolume event
 - H. Configure a custom AWS Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly
 - I. Specify the runbook as the target of the rule.
 - J. Turn on AWS CloudTrail in the account
 - K. Create an Amazon EventBridge rule that reacts to EBS CreateVolume events or EBS ModifyVolume event
 - L. Configure a custom AWS Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly
 - M. 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 44

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 47

A company deploys updates to its Amazon API Gateway API several times a week by using an AWS CodePipeline pipeline. As part of the update process the company exports the JavaScript SDK for the API from the API Gateway console and uploads the SDK to an Amazon S3 bucket

The company has configured an Amazon CloudFront distribution that uses the S3 bucket as an origin. Web clients then download the SDK by using the CloudFront distribution's endpoint. A DevOps engineer needs to implement a solution to make the new SDK available automatically during new API deployments.

Which solution will meet these requirements?

- A. Create a CodePipeline action immediately after the deployment stage of the API
- B. Configure the action to invoke an AWS Lambda function
- C. Configure the Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and create a CloudFront invalidation for the SDK path.
- D. Create a CodePipeline action immediately after the deployment stage of the API. Configure the action to use the CodePipeline integration with API Gateway to export the SDK to Amazon S3. Create another action that uses the CodePipeline integration with Amazon S3 to invalidate the cache for the SDK path.
- E. Create an Amazon EventBridge rule that reacts to UpdateStage events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.
- F. Create an Amazon EventBridge rule that reacts to CreateDeployment events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.
- G. Create an Amazon EventBridge rule that reacts to CreateDeployment events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.
- H. Create an Amazon EventBridge rule that reacts to CreateDeployment events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.
- I. Create an Amazon EventBridge rule that reacts to CreateDeployment events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.
- J. Create an Amazon EventBridge rule that reacts to CreateDeployment events from aws:apigateway. Configure the rule to invoke an AWS Lambda function to download the SDK from API Gateway, upload the SDK to the S3 bucket and call the CloudFront API to create an invalidation for the SDK path.

Answer: A

Explanation:

This solution would allow the company to automate the process of updating the SDK and making it available to web clients. By adding a CodePipeline action immediately after the deployment stage of the API, the Lambda function will be invoked automatically each time the API is updated. The Lambda function should be able to download the new SDK from API Gateway, upload it to the S3 bucket and also create a CloudFront invalidation for the SDK path so that the latest version of the SDK is available for the web clients. This is the most straightforward solution and it will meet the requirements.

NEW QUESTION 51

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

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

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

Answer: C

Explanation:

EC2 instances running in private subnets of a VPC can now have controlled access to S3 buckets, objects, and API functions that are in the same region as the VPC. You can use an S3 bucket policy to indicate which VPCs and which VPC Endpoints have access to your S3 buckets 1-
<https://aws.amazon.com/pt/blogs/aws/new-vpc-endpoint-for-amazon-s3/>

NEW QUESTION 56

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

Which solution will meet these requirements?

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

Answer: C

Explanation:

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

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

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

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

References:

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

NEW QUESTION 58

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

Answer: D

Explanation:

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

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

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

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

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

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

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

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

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

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

NEW QUESTION 59

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

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

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

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

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

Answer: AE

Explanation:

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

References:

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

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

NEW QUESTION 62

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 is 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 tor 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-linux-instances/>

NEW QUESTION 64

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 67

A DevOps engineer has implemented a CI/CO pipeline to deploy an AWS CloudFormation template that provisions a web application. The web application consists of an Application Load Balancer (ALB), a target group, a launch template that uses an Amazon Linux 2 AMI, an Auto Scaling group of Amazon EC2 instances, a security group, and an Amazon RDS for MySQL database. The launch template includes user data that specifies a script to install and start the application.

The initial deployment of the application was successful. The DevOps engineer made changes to update the version of the application with the user data. The CI/CD pipeline has deployed a new version of the template. However, the health checks on the ALB are now failing. The health checks have marked all targets as unhealthy.

During investigation, the DevOps engineer notices that the CloudFormation stack has a status of UPDATE_COMPLETE. However, when the DevOps engineer connects to one of the EC2 instances and checks /var/log messages, the DevOps engineer notices that the Apache web server failed to start successfully because of a configuration error.

How can the DevOps engineer ensure that the CloudFormation deployment will fail if the user data fails to successfully finish running?

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

Answer: A

Explanation:

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-attribute-updatepolicy.html>

NEW QUESTION 71

An ecommerce company has chosen AWS to host its new platform. The company's DevOps team has started building an AWS Control Tower landing zone. The DevOps team has set the identity store within AWS IAM Identity Center (AWS Single Sign-On) to external identity provider (IdP) and has configured SAML 2.0. The DevOps team wants a robust permission model that applies the principle of least privilege. The model must allow the team to build and manage only the team's own resources.

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

- A. Create IAM policies that include the required permission
- B. Include the aws:PrincipalTag condition key.
- C. Create permission set
- D. Attach an inline policy that includes the required permissions and uses the aws:PrincipalTag condition key to scope the permissions.
- E. Create a group in the Id
- F. Place users in the grou
- G. Assign the group to accounts and the permission sets in IAM Identity Center.
- H. Create a group in the Id
- I. Place users in the grou
- J. Assign the group to OUs and IAM policies.
- K. Enable attributes for access control in IAM Identity Cente
- L. Apply tags to user
- M. Map the tags as key-value pairs.
- N. Enable attributes for access control in IAM Identity Cente
- O. Map attributes from the IdP as key-value pairs.

Answer: BCF

Explanation:

Using the principalTag in the Permission Set inline policy a logged in user belonging to a specific AD group in the IDP can be permitted access to perform operations on certain resources if their group matches the group used in the PrincipleTag. Basically you are narrowing the scope of privileges assigned via Permission policies conditionally based on whether the logged in user belongs to a specific AD Group in IDP. The mapping of the AD group to the request attributes can be done using SSO attributes where we can pass other attributes like the SAML token as well.

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

NEW QUESTION 75

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 76

A company builds a container image in an AWS CodeBuild project by running Docker commands. After the container image is built, the CodeBuild project uploads the container image to an Amazon S3 bucket. The CodeBuild project has an IAM service role that has permissions to access the S3 bucket.

A DevOps engineer needs to replace the S3 bucket with an Amazon Elastic Container Registry (Amazon ECR) repository to store the container images. The DevOps engineer creates an ECR private image repository in the same AWS Region of the CodeBuild project. The DevOps engineer adjusts the IAM service role with the permissions that are necessary to work with the new ECR repository. The DevOps engineer also places new repository information into the docker build command and the docker push command that are used in the buildspec.yml file.

When the CodeBuild project runs a build job, the job fails when the job tries to access the ECR repository.

Which solution will resolve the issue of failed access to the ECR repository?

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

Answer: A

Explanation:

Update the buildspec.yml file to log in to the ECR repository by using the aws ecr get-login-password AWS CLI command to obtain an authentication token. Update the docker login command to use the authentication token to access the ECR repository.

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

NEW QUESTION 79

A company must encrypt all AMIs that the company shares across accounts. A DevOps engineer has access to a source account where an unencrypted custom AMI has been built. The DevOps engineer also has access to a target account where an Amazon EC2 Auto Scaling group will launch EC2 instances from the AMI. The DevOps engineer must share the AMI with the target account. The company has created an AWS Key Management Service (AWS KMS) key in the source account. Which additional steps should the DevOps engineer perform to meet the requirements? (Choose three.)

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

Answer: ADF

Explanation:

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

- ? In the source account, copy the unencrypted AMI to an encrypted AMI. Specify the KMS key in the copy action.
- ? In the source account, create a KMS grant that delegates permissions to the Auto Scaling group service-linked role in the target account.
- ? In the source account, share the encrypted AMI with the target account.
- ? In the target account, attach the KMS grant to the Auto Scaling group service-linked role.

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

NEW QUESTION 80

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 85

A DevOps engineer manages a web application that runs on Amazon EC2 instances behind an Application Load Balancer (ALB). The instances run in an EC2 Auto Scaling group across multiple Availability Zones. The engineer needs to implement a deployment strategy that:

Launches a second fleet of instances with the same capacity as the original fleet. Maintains the original fleet unchanged while the second fleet is launched. Transitions traffic to the second fleet when the second fleet is fully deployed. Terminates the original fleet automatically 1 hour after transition.

Which solution will satisfy these requirements?

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

Answer: C

Explanation:

https://docs.aws.amazon.com/codedeploy/latest/APIReference/API_BlueInstanceTerminationOption.html

The original revision termination settings are configured to wait 1 hour after traffic has been rerouted before terminating the blue task set.

<https://docs.aws.amazon.com/AmazonECS/latest/developerguide/deployment-type-bluegreen.html>

NEW QUESTION 90

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 enable
- B. Save the template to an Amazon S3 bucket that has been shared with all accounts within the compan
- 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 CL
- 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 expressio
- H. Apply the SCP to all AWS account
- I. Use Amazon Athena to analyze the AWS CloudTrail output, looking for events that deny an ec2: RunInstances action.
- J. Deploy an IAM role to all accounts from a single trusted account
- K. 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
- L. 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 91

A company has an application that includes AWS Lambda functions. The Lambda functions run Python code that is stored in an AWS CodeCommit repository. The company has recently experienced failures in the production environment because of an error in the Python code. An engineer has written unit tests for the Lambda functions to help avoid releasing any future defects into the production environment.

The company's DevOps team needs to implement a solution to integrate the unit tests into an existing AWS CodePipeline pipeline. The solution must produce reports about the unit tests for the company to view.

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

Option C is incorrect because AWS CodeArtifact is a service that provides secure, scalable, and cost-effective artifact management for software development. It is not a tool for running unit tests or producing test reports. Moreover, option C uses CUCUMBERJSON as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.

Option D is incorrect because uploading the test reports to an Amazon S3 bucket is not the best way to produce reports about the unit tests for the company to view. CodeBuild has a built-in feature to create and manage test reports, which is more convenient and efficient than using S3. Furthermore, option D uses HTML as the output format for the unit tests, which is not supported by CodeBuild and will not generate a valid report.

NEW QUESTION 96

A company uses AWS Storage Gateway in file gateway mode in front of an Amazon S3 bucket that is used by multiple resources. In the morning when business

begins, users do not see the objects processed by a third party the previous evening. When a DevOps engineer looks directly at the S3 bucket, the data is there, but it is missing in Storage Gateway.

Which solution ensures that all the updated third-party files are available in the morning?

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

Answer: A

Explanation:

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

NEW QUESTION 98

A company is hosting a static website from an Amazon S3 bucket. The website is available to customers at example.com. The company uses an Amazon Route 53 weighted routing policy with a TTL of 1 day. The company has decided to replace the existing static website with a dynamic web application. The dynamic web application uses an Application Load Balancer (ALB) in front of a fleet of Amazon EC2 instances.

On the day of production launch to customers, the company creates an additional Route 53 weighted DNS record entry that points to the ALB with a weight of 255 and a TTL of 1 hour. Two days later, a DevOps engineer notices that the previous static website is displayed sometimes when customers navigate to example.com.

How can the DevOps engineer ensure that the company serves only dynamic content for example.com?

- A. Delete all objects, including previous versions, from the S3 bucket that contains the static website content.
- B. Update the weighted DNS record entry that points to the S3 bucket.
- C. Apply a weight of 0. Specify the domain reset option to propagate changes immediately.
- D. Configure webpage redirect requests on the S3 bucket with a hostname that redirects to the ALB.
- E. Remove the weighted DNS record entry that points to the S3 bucket from the example.com hosted zone.
- F. Wait for DNS propagation to become complete.

Answer: D

NEW QUESTION 101

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

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

- A. Create a second CloudFront distribution that has the secondary ALB as the default origin.
- B. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both CloudFront distributions.
- C. Update the application to use the new record set.
- D. Create a new origin on the distribution for the secondary ALB.
- E. Create a new origin group.
- F. Set the original ALB as the primary origin.
- G. Configure the origin group to fail over for HTTP 5xx status code.
- H. Update the default behavior to use the origin group.
- I. Create Amazon Route 53 alias records that have a failover policy and Evaluate Target Health set to Yes for both ALBs.
- J. Set the TTL of both records to 0. Update the distribution's origin to use the new record set.
- K. Create a CloudFront function that detects HTTP 5xx status code.
- L. Configure the function to return a 307 Temporary Redirect error response to the secondary ALB if the function detects 5xx status code.
- M. Update the distribution's default behavior to send origin responses to the function.

Answer: B

Explanation:

The best solution to implement failover for the application is to use CloudFront origin groups. Origin groups allow CloudFront to automatically switch to a secondary origin when the primary origin is unavailable or returns specific HTTP status codes that indicate a failure¹. This way, CloudFront can serve the requests from the secondary ALB in the secondary Region without any delay or redirection. To set up origin groups, the DevOps engineer needs to create a new origin on the distribution for the secondary ALB, create a new origin group with the original ALB as the primary origin and the secondary ALB as the secondary origin, and configure the origin group to fail over for HTTP 5xx status

codes. Then, the DevOps engineer needs to update the default behavior to use the origin group instead of the single origin².

The other options are not as effective or efficient as the solution in option B. Option A is not suitable because creating a second CloudFront distribution will increase the complexity and cost of the application. Moreover, using Route 53 alias records with a failover policy will introduce some delay in detecting and switching to the secondary CloudFront distribution, which may not meet the zero-second RTO requirement. Option C is not feasible because CloudFront does not support using Route 53 alias records as origins³. Option D is not advisable because using a CloudFront function to redirect the requests to the secondary ALB will add an extra round-trip and latency to the failover process, which may also not meet the zero-second RTO requirement.

References:

? 1: Optimizing high availability with CloudFront origin failover - Amazon CloudFront

? 2: Creating an origin group - Amazon CloudFront

? 3: Values That You Specify When You Create or Update a Web Distribution - Amazon CloudFront

NEW QUESTION 102

A company plans to use Amazon CloudWatch to monitor its Amazon EC2 instances. The company needs to stop EC2 instances when the average of the NetworkPacketsIn metric is less than 5 for at least 3 hours in a 12-hour time window. The company must evaluate the metric every hour. The EC2 instances must continue to run if there is missing data for the NetworkPacketsIn metric during the evaluation period.

A DevOps engineer creates a CloudWatch alarm for the NetworkPacketsIn metric. The DevOps engineer configures a threshold value of 5 and an evaluation period of 1 hour.

Which set of additional actions should the DevOps engineer take to meet these requirements?

- A. Configure the Datapoints to Alarm value to be 3 out of 12. Configure the alarm to treat missing data as breaching the threshold
- B. Add an AWS Systems Manager action to stop the instance when the alarm enters the ALARM state.
- C. Configure the Datapoints to Alarm value to be 3 out of 12. Configure the alarm to treat missing data as not breaching the threshold
- D. Add an EC2 action to stop the instance when the alarm enters the ALARM state.
- E. Configure the Datapoints to Alarm value to be 9 out of 12. Configure the alarm to treat missing data as breaching the threshold
- F. Add an EC2 action to stop the instance when the alarm enters the ALARM state.
- G. Configure the Datapoints to Alarm value to be 9 out of 12. Configure the alarm to treat missing data as not breaching the threshold
- H. Add an AWS Systems Manager action to stop the instance when the alarm enters the ALARM state.

Answer: B

Explanation:

To meet the requirements, the DevOps engineer needs to configure the CloudWatch alarm to stop the EC2 instances when the average of the NetworkPacketsIn metric is less than 5 for at least 3 hours in a 12-hour time window. This means that the alarm should trigger when 3 out of 12 datapoints are below the threshold of 5. The alarm should also treat missing data as not breaching the threshold, so that the EC2 instances continue to run if there is no data for the metric during the evaluation period. The DevOps engineer can add an EC2 action to stop the instance when the alarm enters the ALARM state, which is a built-in action type for CloudWatch alarms.

NEW QUESTION 106

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
- B. Configure an autoscaling:EC2_INSTANCE_LAUNCHING lifecycle hook on the Auto Scaling group
- C. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- D. Increase the maximum instance count of the Auto Scaling group
- E. Configure an autoscaling:EC2_INSTANCE_LAUNCHING lifecycle hook on the Auto Scaling group
- F. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- G. Configure a warm pool for the Auto Scaling group with warmed EC2 instances in the Running state
- H. Configure an autoscaling:EC2_INSTANCE_LAUNCHING lifecycle hook on the Auto Scaling group
- I. Modify the application to complete the lifecycle hook when the application is ready to serve requests.
- J. Increase the maximum instance count of the Auto Scaling group
- K. Configure an autoscaling:EC2_INSTANCE_LAUNCHING lifecycle hook on the Auto Scaling group
- L. 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 108

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 112

A Company uses AWS CodeCommit for source code control. Developers apply their changes to various feature branches and create pull requests to move those changes to the main branch when the changes are ready for production.

The developers should not be able to push changes directly to the main branch. The company applied the AWSCodeCommitPowerUser managed policy to the developers' IAM role, and now these developers can push changes to the main branch directly on every repository in the AWS account.

What should the company do to restrict the developers' ability to push changes to the main branch directly?

- A. Create an additional policy to include a Deny rule for the GitPush and PutFile action
- B. Include a restriction for the specific repositories in the policy repositories in the policy statement with a condition that references the

- main branch.
- A. Create an additional policy to include a Deny rule for the GitPush and PutFile actions Include a restriction for the specific repositories in the policy statement with a condition that references the main branch
- C. Remove the IAM policy, and add an AWSCodeCommitReadOnly managed policy
- D. Add an Allow rule for the GitPush and PutFile actions for the specific repositories in the policy statement with a condition that references the main branch.
- E. Modify the IAM policy Include a Deny rule for the GitPush and PutFile actions for the specific repositories in the policy statement with a condition that references the main branch.
- F. Create an additional policy to include an Allow rule for the GitPush and PutFile action
- G. Include a restriction for the specific repositories in the policy statement with a condition that references the feature branches.

Answer: A

Explanation:

By default, the AWSCodeCommitPowerUser managed policy allows users to push changes to any branch in any repository in the AWS account. To restrict the developers' ability to push changes to the main branch directly, an additional policy is needed that explicitly denies these actions for the main branch. The Deny rule should be included in a policy statement that targets the specific repositories and includes a condition that references the main branch. The policy statement should look something like this:

```
{
  "Effect": "Deny", "Action": [ "codecommit:GitPush", "codecommit:PutFile"
],
  "Resource": "arn:aws:codecommit:<region>:<account-id>:<repository-name>", "Condition": {
    "StringEqualsIfExists": { "codecommit:References": [ "refs/heads/main"
]
}
}
```

NEW QUESTION 117

A company has multiple development teams in different business units that work in a shared single AWS account. All Amazon EC2 resources that are created in the account must include tags that specify who created the resources. The tagging must occur within the first hour of resource creation. A DevOps engineer needs to add tags to the created resources that include the user ID that created the resource and the cost center ID. The DevOps engineer configures an AWS Lambda function with the cost center mappings to tag the resources. The DevOps engineer also sets up AWS CloudTrail in the AWS account. An Amazon S3 bucket stores the CloudTrail event logs. Which solution will meet the tagging requirements?

- A. Create an S3 event notification on the S3 bucket to invoke the Lambda function for s3.ObjectTagging:Put event
- B. Enable bucket versioning on the S3 bucket.
- C. Enable server access logging on the S3 bucket
- D. Create an S3 event notification on the S3 bucket for s3.ObjectTagging.* events
- E. Create a recurring hourly Amazon EventBridge scheduled rule that invokes the Lambda function
- F. Modify the Lambda function to read the logs from the S3 bucket
- G. Create an Amazon EventBridge rule that uses Amazon EC2 as the event source
- H. Configure the rule to match events delivered by CloudTrail
- I. Configure the rule to target the Lambda function

Answer: D

Explanation:

? Option A is incorrect because S3 event notifications do not support s3.ObjectTagging:Put events. S3 event notifications only support events related to object creation, deletion, replication, and restore. Moreover, enabling bucket versioning on the S3 bucket is not relevant to the tagging requirements, as it only keeps multiple versions of objects in the bucket.

? Option B is incorrect because enabling server access logging on the S3 bucket does not help with tagging the resources. Server access logging only records requests for access to the bucket or its objects. It does not capture the user ID or the cost center ID of the resources. Furthermore, creating an S3 event notification on the S3 bucket for s3.ObjectTagging:Put events is not possible, as explained in option A.

? Option C is incorrect because creating a recurring hourly Amazon EventBridge scheduled rule that invokes the Lambda function is not efficient or timely. The Lambda function would have to read the logs from the S3 bucket every hour and tag the resources accordingly, which could incur unnecessary costs and delays. A better solution would be to trigger the Lambda function as soon as a resource is created, rather than waiting for an hourly schedule.

? Option D is correct because creating an Amazon EventBridge rule that uses Amazon EC2 as the event source and matches events delivered by CloudTrail is a valid way to tag the resources. CloudTrail records all API calls made to AWS services, including EC2, and delivers them as events to EventBridge. The EventBridge rule can filter the events based on the user ID and the resource type, and then target the Lambda function to tag the resources with the cost center ID. This solution meets the tagging requirements in a timely and efficient manner.

References:

- ? S3 event notifications
- ? Server access logging
- ? Amazon EventBridge rules
- ? AWS CloudTrail

NEW QUESTION 118

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 applicatio
- 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 even
- K. Create an AWS Lambda function that invokes a CodePipeline pipeline with a CodeBuild action that runs the tests for the applicatio
- 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: C

Explanation:

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

NEW QUESTION 123

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

Explanation:

Reference: <https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/crpg-ref-responses.html>

NEW QUESTION 126

A company is launching an application that stores raw data in an Amazon S3 bucket. Three applications need to access the data to generate reports. The data must be redacted differently for each application before the applications can access the data. Which solution will meet these requirements?

- A. Create an S3 bucket for each applicatio
- B. Configure S3 Same-Region Replication (SRR) from the raw data's S3 bucket to each application's S3 bucke
- C. Configure each application to consume data from its own S3 bucket.
- D. Create an Amazon Kinesis data strea
- E. Create an AWS Lambda function that isinvoked by object creation events in the raw data's S3 bucke
- F. Program the Lambda function to redact data for each applicatio
- G. Publish the data on the Kinesis data strea
- H. Configure each application to consume data from the Kinesis data stream.
- I. For each application, create an S3 access point that uses the raw data's S3 bucket as the destinatio
- J. Create an AWS Lambda function that is invoked by object creation events in the raw data's S3 bucke
- K. Program the Lambda function to redact data for each applicatio
- L. Store the data in each application's S3 access poin
- M. Configure each application to consume data from its own S3 access point.
- N. Create an S3 access point that uses the raw data's S3 bucket as the destinatio
- O. For each application, create an S3 Object Lambda access point that uses the S3 access poin
- P. Configure the AWS Lambda function for each S3 Object Lambda access point to redact data when objects are retrieve
- Q. Configure each application to consume data from its own S3 Object Lambda access point.

Answer: D

Explanation:

? The best solution is to use S3 Object Lambda¹, which allows you to add your own code to S3 GET, LIST, and HEAD requests to modify and process data as it is returned to an application². This way, you can redact the data differently for each application without creating and storing multiple copies of the data or running proxies.

? The other solutions are less efficient or scalable because they require replicating the data to multiple buckets, streaming the data through Kinesis, or storing the data in S3 access points.

References: 1: Amazon S3 Features | Object Lambda | AWS 2: Transforming objects with S3 Object Lambda - Amazon Simple Storage Service

NEW QUESTION 127

A company is testing a web application that runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. The company uses a blue green deployment process with immutable instances when deploying new software. During testing users are being automatically logged out of the application at random times. Testers also report that when a new version of the application is deployed all users are logged out. The development team needs a solution to ensure users remain logged in across scaling events and application deployments. What is the MOST operationally efficient way to ensure users remain logged in?

- A. Enable smart sessions on the load balancer and modify the application to check for an existing session.
- B. Enable session sharing on the load balancer and modify the application to read from the session store.
- C. Store user session information in an Amazon S3 bucket and modify the application to read session information from the bucket.
- D. Modify the application to store user session information in an Amazon ElastiCache cluster.

Answer: D

Explanation:

<https://aws.amazon.com/caching/session-management/>

NEW QUESTION 132

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 136

A company requires that its internally facing web application be highly available. The architecture is made up of one Amazon EC2 web server instance and one NAT instance that provides outbound internet access for updates and accessing public data. Which combination of architecture adjustments should the company implement to achieve high availability? (Choose two.)

- A. Add the NAT instance to an EC2 Auto Scaling group that spans multiple Availability Zone
- B. Update the route tables.
- C. Create additional EC2 instances spanning multiple Availability Zone
- D. Add an Application Load Balancer to split the load between them.
- E. Configure an Application Load Balancer in front of the EC2 instance
- F. Configure Amazon CloudWatch alarms to recover the EC2 instance upon host failure.
- G. Replace the NAT instance with a NAT gateway in each Availability Zone
- H. Update the route tables.
- I. Replace the NAT instance with a NAT gateway that spans multiple Availability Zone
- J. Update the route tables.

Answer: BD

Explanation:

<https://docs.aws.amazon.com/vpc/latest/userguide/vpc-nat-gateway.html>

NEW QUESTION 139

A company is using an Amazon Aurora cluster as the data store for its application. The Aurora cluster is configured with a single DB instance. The application performs read and write operations on the database by using the cluster's instance endpoint. The company has scheduled an update to be applied to the cluster during an upcoming maintenance window. The cluster must remain available with the least possible interruption during the maintenance window. What should a DevOps engineer do to meet these requirements?

- A. Add a reader instance to the Aurora cluster
- B. Update the application to use the Aurora cluster endpoint for write operation
- C. Update the Aurora cluster's reader endpoint for reads.
- D. Add a reader instance to the Aurora cluster
- E. Create a custom ANY endpoint for the cluster
- F. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.
- G. Turn on the Multi-AZ option on the Aurora cluster
- H. Update the application to use the Aurora cluster endpoint for write operation
- I. Update the Aurora cluster's reader endpoint for reads.
- J. Turn on the Multi-AZ option on the Aurora cluster
- K. Create a custom ANY endpoint for the cluster
- L. Update the application to use the Aurora cluster's custom ANY endpoint for read and write operations.

Answer: C

Explanation:

To meet the requirements, the DevOps engineer should do the following:

- ? Turn on the Multi-AZ option on the Aurora cluster.
- ? Update the application to use the Aurora cluster endpoint for write operations.
- ? Update the Aurora cluster's reader endpoint for reads.

Turning on the Multi-AZ option will create a replica of the database in a different Availability Zone. This will ensure that the database remains available even if one of the Availability Zones is unavailable.

Updating the application to use the Aurora cluster endpoint for write operations will ensure that all writes are sent to both the primary and replica databases. This will ensure that the data is always consistent.

Updating the Aurora cluster's reader endpoint for reads will allow the application to read data from the replica database. This will improve the performance of the application during the maintenance window.

NEW QUESTION 141

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 145

A company is developing a new application. The application uses AWS Lambda functions for its compute tier. The company must use a canary deployment for any changes to the Lambda functions. Automated rollback must occur if any failures are reported.

The company's DevOps team needs to create the infrastructure as code (IaC) and the CI/CD pipeline for this solution.

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

- A. Create an AWS CloudFormation template for the application
- B. Define each Lambda function in the template by using the `AWS::Lambda::Function` resource type
- C. In the template, include a version for the Lambda function by using the `AWS::Lambda::Version` resource type
- D. Declare the `CodeSha256` property
- E. Configure an `AWS::Lambda::Alias` resource that references the latest version of the Lambda function.
- F. Create an AWS Serverless Application Model (AWS SAM) template for the application
- G. Define each Lambda function in the template by using the `AWS::Serverless::Function` resource type
- H. For each function, include configurations for the `AutoPublishAlias` property and the `DeploymentPreference` property
- I. Configure the deployment configuration type to `LambdaCanary10Percent10Minutes`.
- J. Create an AWS CodeCommit repository
- K. Create an AWS CodePipeline pipeline
- L. Use the CodeCommit repository in a new source stage that starts the pipeline
- M. Create an AWS CodeBuild project to deploy the AWS Serverless Application Model (AWS SAM) template
- N. Upload the template and source code to the CodeCommit repository
- O. In the CodeCommit repository, create a `buildspec.yml` file that includes the commands to build and deploy the SAM application.
- P. Create an AWS CodeCommit repository
- Q. Create an AWS CodePipeline pipeline
- R. Use the CodeCommit repository in a new source stage that starts the pipeline
- S. Create an AWS CodeDeploy deployment group that is configured for canary deployments with a `DeploymentPreference` type of `Canary10Percent10Minute`
- T. Upload the AWS CloudFormation template and source code to the CodeCommit repository
- . In the CodeCommit repository, create an `appspec.yml` file that includes the commands to deploy the CloudFormation template.
- . Create an Amazon CloudWatch composite alarm for all the Lambda functions
- . Configure an evaluation period and dimensions for Lambda
- . Configure the alarm to enter the `ALARM` state if any errors are detected or if there is insufficient data.
- . Create an Amazon CloudWatch alarm for each Lambda function
- . Configure the alarms to enter the `ALARM` state if any errors are detected
- . Configure an evaluation period, dimensions for each Lambda function and version, and the namespace as `AWS/Lambda` on the `Errors` metric.

Answer: BCF

Explanation:

The requirement is to create the infrastructure as code (IaC) and the CI/CD pipeline for the Lambda application that uses canary deployment and automated rollback. To do this, the DevOps team needs to use the following steps:

? Create an AWS Serverless Application Model (AWS SAM) template for the application. AWS SAM is a framework that simplifies the development and deployment of serverless applications on AWS. AWS SAM allows customers to define Lambda functions and other resources in a template by using a simplified syntax. For each Lambda function, the DevOps team can include configurations for the `AutoPublishAlias` property and the `DeploymentPreference` property. The `AutoPublishAlias` property specifies the name of the alias that points to the latest version of the function. The `DeploymentPreference` property specifies how CodeDeploy deploys new versions of the function. By configuring the deployment configuration type to `LambdaCanary10Percent10Minutes`, the DevOps team can enable canary deployment with 10% of traffic shifted to the new version every 10 minutes.

? Create an AWS CodeCommit repository. Create an AWS CodePipeline pipeline.

Use the CodeCommit repository in a new source stage that starts the pipeline. Create an AWS CodeBuild project to deploy the AWS SAM template. CodeCommit is a fully managed source control service that hosts Git repositories. CodePipeline is a fully managed continuous delivery service that automates the release process of software applications. CodeBuild is a fully managed continuous integration service that compiles source code and runs tests. By using these services, the DevOps team can create a CI/CD pipeline for the Lambda application. The pipeline should use the CodeCommit repository as the source stage, where the DevOps team can upload the SAM template and source code. The pipeline should also use a CodeBuild project as the build stage, where the SAM template can be built and deployed.

? Create an Amazon CloudWatch alarm for each Lambda function. Configure the alarms to enter the `ALARM` state if any errors are detected. Configure an evaluation period, dimensions for each Lambda function and version, and the namespace as `AWS/Lambda` on the `Errors` metric. CloudWatch is a service that monitors and collects metrics from AWS resources and applications. CloudWatch alarms are actions that are triggered when a metric crosses a specified threshold. By creating CloudWatch alarms for each Lambda function, the DevOps team can monitor the health and performance of each function version during deployment. By configuring the alarms to enter the `ALARM` state if any errors are detected, the DevOps team can enable automated rollback if any failures are reported.

NEW QUESTION 146

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