

Exam Questions DOP-C02

AWS Certified DevOps Engineer - Professional

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NEW QUESTION 1

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 .ebextension using the Resources key that sets the deletion policy of the ALB to 1 hour, and deploy the application.

Answer: C

Explanation:

https://docs.aws.amazon.com/codedeploy/latest/APIReference/API_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 2

A company is using an organization in AWS Organizations to manage multiple AWS accounts. The company's development team wants to use AWS Lambda functions to meet resiliency requirements and is rewriting all applications to work with Lambda functions that are deployed in a VPC. The development team is using Amazon Elastic File System (Amazon EFS) as shared storage in Account A in the organization.
The company wants to continue to use Amazon EFS with Lambda. Company policy requires all serverless projects to be deployed in Account B.
A DevOps engineer needs to reconfigure an existing EFS file system to allow Lambda functions to access the data through an existing EFS access point.
Which combination of steps should the DevOps engineer take to meet these requirements? (Select THREE.)

- A. Update the EFS file system policy to provide Account B with access to mount and write to the EFS file system in Account A.
- B. Create SCPs to set permission guardrails with fine-grained control for Amazon EFS.
- C. Create a new EFS file system in Account B. Use AWS Database Migration Service (AWS DMS) to keep data from Account A and Account B synchronized.
- D. Update the Lambda execution roles with permission to access the VPC and the EFS file system.
- E. Create a VPC peering connection to connect Account A to Account B.
- F. Configure the Lambda functions in Account B to assume an existing IAM role in Account A.

Answer: AEF

Explanation:

A Lambda function in one account can mount a file system in a different account. For this scenario, you configure VPC peering between the function VPC and the file system VPC. <https://docs.aws.amazon.com/lambda/latest/dg/services-efs.html>

<https://aws.amazon.com/ru/blogs/storage/mount-amazon-efs-file-systems-cross-account-from-amazon-eks/>

* 1. Need to update the file system policy on EFS to allow mounting the file system into Account B.

File System Policy

\$ cat file-system-policy.json

```
{
  "Statement": [
    {
      "Effect": "Allow", "Action": [
        "elasticfilesystem:ClientMount", "elasticfilesystem:ClientWrite"
      ],
      "Principal": {
        "AWS": "arn:aws:iam::<aws-account-id-A>:root" # Replace with AWS account ID of EKS cluster
      }
    }
  ]
}
```

* 2. Need VPC peering between Account A and Account B as the pre-requisite

* 3. Need to assume cross-account IAM role to describe the mounts so that a specific mount can be chosen.

NEW QUESTION 3

A company has many applications. Different teams in the company developed the applications by using multiple languages and frameworks. The applications run on premises and on different servers with different operating systems. Each team has its own release protocol and process. The company wants to reduce the complexity of the release and maintenance of these applications.
The company is migrating its technology stacks, including these applications, to AWS. The company wants centralized control of source code, a consistent and automatic delivery pipeline, and as few maintenance tasks as possible on the underlying infrastructure.
What should a DevOps engineer do to meet these requirements?

- A. Create one AWS CodeCommit repository for all applications
- B. Put each application's code in a different branch
- C. Merge the branches, and use AWS CodeBuild to build the application
- D. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- E. Create one AWS CodeCommit repository for each of the applications
- F. Use AWS CodeBuild to build the applications one at a time
- G. Use AWS CodeDeploy to deploy the applications to one centralized application server.
- H. Create one AWS CodeCommit repository for each of the applications
- I. Use AWS CodeBuild to build the applications one at a time and to create one AMI for each server

- J. Use AWS CloudFormation StackSets to automatically provision and decommission Amazon EC2 fleets by using these AMIs.
- K. Create one AWS CodeCommit repository for each of the application
- L. Use AWS CodeBuild to build one Docker image for each application in Amazon Elastic Container Registry (Amazon ECR). Use AWS CodeDeploy to deploy the applications to Amazon Elastic Container Service (Amazon ECS) on infrastructure that AWS Fargate manages.

Answer: D

Explanation:

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

NEW QUESTION 4

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

Which solution will accomplish this?

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

Answer: D

Explanation:

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

NEW QUESTION 5

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 6

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

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

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

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

Answer: C

Explanation:

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

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

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

NEW QUESTION 7

A DevOps engineer needs to configure a blue green deployment for an existing three-tier application. The application runs on Amazon EC2 instances and uses an Amazon RDS database. The EC2 instances run behind an Application Load Balancer (ALB) and are in an Auto Scaling group.

The DevOps engineer has created a launch template and an Auto Scaling group for the blue environment. The DevOps engineer also has created a launch template and an Auto Scaling group for the green environment. Each Auto Scaling group deploys to a matching blue or green target group. The target group also specifies which software blue or green gets loaded on the EC2 instances. The ALB can be configured to send traffic to the blue environment's target group or the green environment's target group. An Amazon Route 53 record for www.example.com points to the ALB.

The deployment must move traffic all at once between the software on the blue environment's EC2 instances to the newly deployed software on the green environment's EC2 instances.

What should the DevOps engineer do to meet these requirements?

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

Answer: A

Explanation:

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

NEW QUESTION 8

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

Which solution will meet these requirements?

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

Answer: C

Explanation:

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

<https://docs.aws.amazon.com/config/latest/developerguide/conformance-packs.html>

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

NEW QUESTION 9

A DevOps engineer has automated a web service deployment by using AWS CodePipeline with the following steps:

- 1) An AWS CodeBuild project compiles the deployment artifact and runs unit tests.
- 2) An AWS CodeDeploy deployment group deploys the web service to Amazon EC2 instances in the staging environment.
- 3) A CodeDeploy deployment group deploys the web service to EC2 instances in the production environment. The quality assurance (QA) team requests permission to inspect the build artifact before the deployment to the production environment occurs. The QA team wants to run an internal penetration testing tool to conduct manual tests. The tool will be invoked by a REST API call.

Which combination of actions should the DevOps engineer take to fulfill this request? (Choose two.)

- A. Insert a manual approval action between the test actions and deployment actions of the pipeline.
- B. Modify the buildspec.yml file for the compilation stage to require manual approval before completion.
- C. Update the CodeDeploy deployment groups so that they require manual approval to proceed.
- D. Update the pipeline to directly call the REST API for the penetration testing tool.
- E. Update the pipeline to invoke an AWS Lambda function that calls the REST API for the penetration testing tool.

Answer: AE

NEW QUESTION 10

A company uses AWS CloudFormation stacks to deploy updates to its application. The stacks consist of different resources. The resources include AWS Auto Scaling groups, Amazon EC2 instances, Application Load Balancers (ALBs), and other resources that are necessary to launch and maintain independent stacks. Changes to application resources outside of CloudFormation stack updates are not allowed.

The company recently attempted to update the application stack by using the AWS CLI. The stack failed to update and produced the following error message:

"ERROR: both the deployment and the CloudFormation stack rollback failed. The deployment failed because the following resource(s) failed to update: [AutoScalingGroup]."

The stack remains in a status of UPDATE_ROLLBACK_FAILED. * Which solution will resolve this issue?

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

Answer: B

Explanation:

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

NEW QUESTION 10

A company runs an application on Amazon EC2 instances. The company uses a series of AWS CloudFormation stacks to define the application resources. A developer performs updates by building and testing the application on a laptop and then uploading the build output and CloudFormation stack templates to Amazon S3. The developer's peers review the changes before the developer performs the CloudFormation stack update and installs a new version of the application onto the EC2 instances.

The deployment process is prone to errors and is time-consuming when the developer updates each EC2 instance with the new application. The company wants to automate as much of the application deployment process as possible while retaining a final manual approval step before the modification of the application or resources.

The company already has moved the source code for the application and the CloudFormation templates to AWS CodeCommit. The company also has created an AWS CodeBuild project to build and test the application.

Which combination of steps will meet the company's requirements? (Choose two.)

- A. Create an application group and a deployment group in AWS CodeDeplo
- B. Install the CodeDeploy agent on the EC2 instances.
- C. Create an application revision and a deployment group in AWS CodeDeplo
- D. Create an environment in CodeDeplo
- E. Register the EC2 instances to the CodeDeploy environment.
- F. Use AWS CodePipeline to invoke the CodeBuild job, run the CloudFormation update, and pause for a manual approval ste
- G. After approval, start the AWS CodeDeploy deployment.
- H. Use AWS CodePipeline to invoke the CodeBuild job, create CloudFormation change sets for each of the application stacks, and pause for a manual approval ste
- I. After approval, run the CloudFormation change sets and start the AWS CodeDeploy deployment.
- J. Use AWS CodePipeline to invoke the CodeBuild job, create CloudFormation change sets for each of the application stacks, and pause for a manual approval ste
- K. After approval, start the AWS CodeDeploy deployment.

Answer: AD

Explanation:

A- <https://docs.aws.amazon.com/codedeploy/latest/userguide/codedeploy-agent.html> D - This option correctly utilizes AWS CodePipeline to invoke the CodeBuild job and create CloudFormation change sets. It adds a manual approval step before executing the change sets and starting the AWS CodeDeploy deployment. This ensures that the deployment process is automated while retaining the final manual approval step.

NEW QUESTION 15

A company's developers use Amazon EC2 instances as remote workstations. The company is concerned that users can create or modify EC2 security groups to allow unrestricted inbound access.

A DevOps engineer needs to develop a solution to detect when users create unrestricted security group rules. The solution must detect changes to security group rules in near real time, remove unrestricted rules, and send email notifications to the security team. The DevOps engineer has created an AWS Lambda function that checks for security group ID from input, removes rules that grant unrestricted access, and sends notifications through Amazon Simple Notification Service (Amazon SNS).

What should the DevOps engineer do next to meet the requirements?

- A. Configure the Lambda function to be invoked by the SNS topi
- B. Create an AWS CloudTrail subscription for the SNS topi
- C. Configure a subscription filter for security group modification events.
- D. Create an Amazon EventBridge scheduled rule to invoke the Lambda functio
- E. Define a schedule pattern that runs the Lambda function every hour.
- F. Create an Amazon EventBridge event rule that has the default event bus as the sourc
- G. Define the rule's event pattern to match EC2 security group creation and modification event
- H. Configure the rule to invoke the Lambda function.
- I. Create an Amazon EventBridge custom event bus that subscribes to events from all AWS services. Configure the Lambda function to be invoked by the custom event bus.

Answer: C

Explanation:

To meet the requirements, the DevOps engineer should create an Amazon EventBridge event rule that has the default event bus as the source. The rule's event pattern should match EC2 security group creation and modification events, and it should be configured to invoke the Lambda function. This solution will allow for near real-time detection of security group rule changes and will trigger the Lambda function to remove any unrestricted rules and send email notifications to the security team.

<https://repost.aws/knowledge-center/monitor-security-group-changes-ec2>

NEW QUESTION 17

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 groupservice-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 AML in the target account.

NEW QUESTION 19

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 20

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

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

Which solution will meet these requirements?

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

Answer: D

Explanation:

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

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

NEW QUESTION 21

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

What should the DevOps engineer do with the CloudFormation template so that IPv6 clients can access the web service?

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

Answer: D

Explanation:

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

NEW QUESTION 22

A company is implementing an Amazon Elastic Container Service (Amazon ECS) cluster to run its workload. The company architecture will run multiple ECS services on the cluster. The architecture includes an Application Load Balancer on the front end and uses multiple target groups to route traffic.

A DevOps engineer must collect application and access logs. The DevOps engineer then needs to send the logs to an Amazon S3 bucket for near-real-time analysis.

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

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

Answer: BDF

Explanation:

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

NEW QUESTION 23

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 accounts. Use Amazon Athena to analyze the AWS CloudTrail output, looking for events that deny an ec2:RunInstances action.
- I. Deploy an IAM role to all accounts from a single trusted accoun
- J. Build a pipeline with AWS CodePipeline with a stage in AWS Lambda to assume the IAM role, and list all EBS volumes in the accoun
- K. Publish a report to Amazon S3.

Answer: B

Explanation:

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

NEW QUESTION 26

A company manages a web application that runs on Amazon EC2 instances behind an Application Load Balancer (ALB). The EC2 instances run in an Auto Scaling group across multiple Availability Zones. The application uses an Amazon RDS for MySQL DB instance to store the data. The company has configured Amazon Route 53 with an alias record that points to the ALB.

A new company guideline requires a geographically isolated disaster recovery (DR) site with an RTO of 4 hours and an RPO of 15 minutes.

Which DR strategy will meet these requirements with the LEAST change to the application stack?

- A. Launch a replica environment of everything except Amazon RDS in a different Availability Zone Create an RDS read replica in the new Availability Zone: and configure the new stack to point to the local RDS DB instanc
- B. Add the new stack to the Route 53 record set by using a health check to configure a failover routing policy.
- C. Launch a replica environment of everything except Amazon RDS in a different AW
- D. Region Create an RDS read replica in the new Region and configure the new stack to point to the local RDS DB instanc
- E. Add the new stack to the Route 53 record set by using a health check to configure a latency routing policy.
- F. Launch a replica environment of everything except Amazon RDS ma different AWS Regio
- G. In the event of an outage copy and restore the latest RDS snapshot from the primar
- H. Region to the DR Region Adjust the Route 53 record set to point to the ALB in the DR Region.
- I. Launch a replica environment of everything except Amazon RDS in a different AWS Regio
- J. Create an RDS read replica in the new Region and configure the new environment to point to the local RDS DB instanc
- K. Add the new stack to the Route 53 record set by using a health check to configure a failover routing polic
- L. In the event of an outage promote the read replica to primary.

Answer: D

NEW QUESTION 30

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

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


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

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

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

- A. AfterBlockTraffic
- B. BeforeBlockTraffic
- C. BeforeInstall
- D. Download Bundle

Answer: C

Explanation:

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

NEW QUESTION 35

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 36

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 40

A company requires its developers to tag all Amazon Elastic Block Store (Amazon EBS) volumes in an account to indicate a desired backup frequency. This requirement includes EBS volumes that do not require backups. The company uses custom tags named Backup_Frequency that have values of none, daily, or weekly that correspond to the desired backup frequency. An audit finds that developers are occasionally not tagging the EBS volumes.

A DevOps engineer needs to ensure that all EBS volumes always have the Backup_Frequency tag so that the company can perform backups at least weekly unless a different value is specified.

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

- > Set up AWS Config in the account.
- > Use a managed rule that returns a compliance failure for EC2::Volume resources that do not have a Backup Frequency tag applied.
- > Configure a remediation action that uses a custom AWS Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly.

The managed rule AWS::Config::EBSVolumesWithoutBackupTag will return a compliance failure for any EBS volume that does not have the Backup_Frequency tag applied. The remediation action will then use the Systems Manager Automation runbook to apply the Backup_Frequency tag with a value of weekly to the EBS volume.

NEW QUESTION 45

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

Which solution will meet these requirements?

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

Answer: D

Explanation:

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

NEW QUESTION 47

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

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

Which type of events will match this event pattern?

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

D. Approval actions across all the pipelines

Answer: B

Explanation:

Action-level states in events Action state Description

STARTED The action is currently running. SUCCEEDED The action was completed successfully.

FAILED For Approval actions, the FAILED state means the action was either rejected by the reviewer or failed due to an incorrect action configuration.

CANCELED The action was canceled because the pipeline structure was updated.

NEW QUESTION 49

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

The company has enabled AWS Config in each existing AWS account in the organization. A DevOps engineer must implement a solution that enables AWS Config automatically for all future AWS accounts that are created in the organization.

Which solution will meet this requirement?

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

Answer: B

NEW QUESTION 53

A company recently created a new AWS Control Tower landing zone in a new organization in AWS Organizations. The landing zone must be able to demonstrate compliance with the Center for Internet Security (CIS) Benchmarks for AWS Foundations.

The company's security team wants to use AWS Security Hub to view compliance across all accounts. Only the security team can be allowed to view aggregated Security Hub Findings. In addition, specific users must be able to view findings from their own accounts within the organization. All accounts must be enrolled in Security Hub after the accounts are created.

Which combination of steps will meet these requirements in the MOST automated way? (Select THREE.)

- A. Turn on trusted access for Security Hub in the organization's management account
- B. Create a new security account by using AWS Control Tower. Configure the new security account as the delegated administrator account for Security Hub
- C. In the new security account, provide
- D. Security Hub with the CIS Benchmarks for AWS Foundations standards.
- E. Turn on trusted access for Security Hub in the organization's management account
- F. From the management account, provide Security Hub with the CIS Benchmarks for AWS Foundations standards.
- G. Create an AWS IAM identity Center (AWS Single Sign-On) permission set that includes the required permissions. Use the CreateAccountAssignment API operation to associate the security team users with the permission set and with the delegated security account.
- H. Create an SCP that explicitly denies any user who is not on the security team from accessing Security Hub.
- I. In Security Hub, turn on automatic enablement.
- J. In the organization's management account, create an Amazon EventBridge rule that reacts to the CreateManagedAccount event. Create an AWS Lambda function that uses the Security Hub CreateMembers API operation to add new accounts to Security Hub
- K. Configure the EventBridge rule to invoke the Lambda function.

Answer: ACE

Explanation:

<https://docs.aws.amazon.com/securityhub/latest/userguide/accounts-orgs-auto-enable.html>

NEW QUESTION 57

A company manages multiple AWS accounts in AWS Organizations. The company's security policy states that AWS account root user credentials for member accounts must not be used. The company monitors access to the root user credentials.

A recent alert shows that the root user in a member account launched an Amazon EC2 instance. A DevOps engineer must create an SCP at the organization's root level that will prevent the root user in member accounts from making any AWS service API calls.

Which SCP will meet these requirements?

A)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*",
      "Condition": {
        "StringNotLike": { "aws:PrincipalArn": "arn:aws:iam::*:root" }
      }
    }
  ]
}
```


B)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*",
      "Principal": { "AWS": "arn:aws:iam::*:root" }
    }
  ]
}
```

C)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Deny",
      "Action": "*",
      "Resource": "*",
      "Condition": {
        "StringLike": { "aws:PrincipalArn": "arn:aws:iam::*:root" }
      }
    }
  ]
}
```

D)

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "*",
      "Resource": "*",
      "Principal": "root"
    }
  ]
}
```

- A. Option A
- B. Option B
- C. Option C
- D. Option D

Answer: D

NEW QUESTION 62

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. Wait for DNS propagation to become complete.

Answer: D

NEW QUESTION 64

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 Center
- L. Apply tags to user
- M. Map the tags as key-value pairs.
- N. Enable attributes for access control in IAM Identity Center
- 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 65

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

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

What is the MOST scalable solution that meets these requirements?

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

Answer: C

Explanation:

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

NEW QUESTION 70

A DevOps engineer is working on a data archival project that requires the migration of on-premises data to an Amazon S3 bucket. The DevOps engineer develops a script that incrementally archives on-premises data that is older than 1 month to Amazon S3. Data that is transferred to Amazon S3 is deleted from the on-premises location The script uses the S3 PutObject operation.

During a code review the DevOps engineer notices that the script does not verify whether the data was successfully copied to Amazon S3. The DevOps engineer must update the script to ensure that data is not corrupted during transmission. The script must use MD5 checksums to verify data integrity before the on-premises data is deleted.

Which solutions for the script will meet these requirements'? (Select TWO.)

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

Answer: BD

Explanation:

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

NEW QUESTION 73

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

What is the MOST cost-effective solution?

- A. Use Amazon EFS (or checkpoint dat

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

Answer: D

NEW QUESTION 75

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 78

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

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

Answer: AD

Explanation:

<https://docs.aws.amazon.com/codedeploy/latest/userguide/troubleshooting-deployments.html#troubleshooting-s>

NEW QUESTION 81

A security review has identified that an AWS CodeBuild project is downloading a database population script from an Amazon S3 bucket using an unauthenticated request. The security team does not allow unauthenticated requests to S3 buckets for this project. How can this issue be corrected in the MOST secure manner?

- A. Add the bucket name to the AllowedBuckets section of the CodeBuild project setting
- B. Update the build spec to use the AWS CLI to download the database population script.
- C. Modify the S3 bucket settings to enable HTTPS basic authentication and specify a token
- D. Update the build spec to use curl to pass the token and download the database population script.
- E. Remove unauthenticated access from the S3 bucket with a bucket policy
- F. Modify the service role for the CodeBuild project to include Amazon S3 access
- G. Use the AWS CLI to download the database population script.
- H. Remove unauthenticated access from the S3 bucket with a bucket policy
- I. Use the AWS CLI to download the database population script using an IAM access key and a secret access key.

Answer: C

Explanation:

A bucket policy is a resource-based policy that defines who can access a specific S3 bucket and what actions they can perform on it. By removing unauthenticated access from the bucket policy, you can prevent anyone without valid credentials from accessing the bucket. A service role is an IAM role that allows an AWS service, such as CodeBuild, to perform actions on your behalf. By modifying the service role for the CodeBuild project to include Amazon S3 access, you can grant the project permission to read and write objects in the S3 bucket. The AWS CLI is a command-line tool that allows you to interact with AWS services, such as S3, using commands in your terminal. By using the AWS CLI to download the database population script, you can leverage the service role credentials and encryption to secure the data transfer.

For more information, you can refer to these web pages:

- > [Using bucket policies and user policies - Amazon Simple Storage Service]
- > [Create a service role for CodeBuild - AWS CodeBuild]
- > [AWS Command Line Interface]

NEW QUESTION 86

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

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

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

Answer: ABF

Explanation:

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

NEW QUESTION 91

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

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

NEW QUESTION 96

The security team depends on AWS CloudTrail to detect sensitive security issues in the company's AWS account. The DevOps engineer needs a solution to auto-remediate CloudTrail being turned off in an AWS account.

What solution ensures the LEAST amount of downtime for the CloudTrail log deliveries?

- A. Create an Amazon EventBridge rule for the CloudTrail StopLogging even
- B. Create an AWS Lambda (unction that uses the AWS SDK to call StartLogging on the ARN of the resource in which StopLogging was calle
- C. Add the Lambda function ARN as a target to the EventBridge rule.
- D. Deploy the AWS-managed CloudTrail-enabled AWS Config rule set with a periodic interval to 1 hour.Create an Amazon EventBridge rule tor AWS Config rules compliance chang
- E. Create an AWS Lambda function that uses the AWS SDK to call StartLogging on the ARN of the resource in which StopLoggmng was calle
- F. Add the Lambda function ARN as a target to the EventBridge rule.
- G. Create an Amazon EventBridge rule for a scheduled event every 5 minute
- H. Create an AWS Lambda function that uses the AWS SDK to call StartLogging on a CloudTrail trail in the AWS accoun
- I. Add the Lambda function ARN as a target to the EventBridge rule.
- J. Launch a t2 nano instance with a script running every 5 minutes that uses the AWS SDK to query CloudTrail in the current accoun
- K. If the CloudTrail trail is disabled have the script re-enable the trail.

Answer: A

Explanation:

<https://aws.amazon.com/blogs/mt/monitor-changes-and-auto-enable-logging-in-aws-cloudtrail/>

NEW QUESTION 99

A company has a single AWS account that runs hundreds of Amazon EC2 instances in a single AWS Region. New EC2 instances are launched and terminated each hour in the account. The account also includes existing EC2 instances that have been running for longer than a week.

The company's security policy requires all running EC2 instances to use an EC2 instance profile. If an EC2 instance does not have an instance profile attached, the EC2 instance must use a default instance profile that has no IAM permissions assigned.

A DevOps engineer reviews the account and discovers EC2 instances that are running without an instance

profile. During the review, the DevOps engineer also observes that new EC2 instances are being launched without an instance profile. Which solution will ensure that an instance profile is attached to all existing and future EC2 instances in the Region?

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

Answer: B

Explanation:

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

NEW QUESTION 103

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 project
- D. In the environment variable, include the ARN of the CodeBuild project's IAM service role
- 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 repository
- 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 operations. Add an ECR repository policy that allows the IAM service role to have access.

Answer: A

Explanation:

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

NEW QUESTION 106

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

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

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

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

Answer: C

NEW QUESTION 108

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

Which deploy stage configuration will meet these requirements?

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

Answer: D

Explanation:

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

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

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

- Use AWS CodeBuild to add sample event payloads for testing to the Lambda functions.
- Publish a new version of the functions, and include Amazon CloudWatch alarms.
- Update the production alias to point to the new version.
- Configure rollbacks to occur when an alarm is in the ALARM state.

This configuration will help to reduce the customer impact of an unsuccessful deployment by deploying the new version of the functions to a staging environment first. This will allow the DevOps engineer to test the new version of the functions before deploying it to production.

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

NEW QUESTION 113

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

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

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

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

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

Answer: C

Explanation:

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

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

NEW QUESTION 118

A DevOps engineer is building a multistage pipeline with AWS CodePipeline to build, verify, stage, test, and deploy an application. A manual approval stage is required between the test stage and the deploy stage. The development team uses a custom chat tool with webhook support that requires near-real-time notifications.

How should the DevOps engineer configure status updates for pipeline activity and approval requests to post to the chat tool?

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

Answer: C

Explanation:

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

NEW QUESTION 119

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

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

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

- A. Apply tags to all the EC2 instances
- B. AWS IoT Greengrass devices, and on-premises server
- C. Use Systems Manager Session Manager to push patches to all the tagged devices.
- D. Use Systems Manager Run Command to schedule patching for the EC2 instances AWS IoT Greengrass devices and on-premises servers.
- E. Use Systems Manager Patch Manager to schedule patching IoT the EC2 instances AWS IoT Greengrass devices and on-premises servers as a Systems Manager maintenance window task.
- F. Configure Amazon EventBridge to monitor Systems Manager Patch Manager for updates to patch baseline
- G. Associate Systems Manager Run Command with the event to initiate a patch action for all EC2 instances AWS IoT Greengrass devices and on-premises servers.
- H. Create an IAM instance profile for Systems Manager Attach the instance profile to all the EC2 instances in the AWS account

I. For the AWS IoT Greengrass devices and on-premises servers create an IAM service role for Systems Manager.
J. Generate a managed-instance activation Use the Activation Code and Activation ID to install Systems Manager Agent (SSM Agent) on each server in the on-premises environment Update the AWS IoT Greengrass IAM token exchange role Use the role to deploy SSM Agent on all the IoT devices.

Answer: CEF

Explanation:

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

NEW QUESTION 120

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 124

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

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

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

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

Answer: A

Explanation:

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

NEW QUESTION 129

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 cluste
- 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 cluste
- E. Create a custom ANY endpoint for the cluste
- 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 cluste
- 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 cluste
- K. Create a custom ANY endpoint for the cluster.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 130

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 133

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

Which action should the engineer take to resolve this issue?

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

Answer: B

NEW QUESTION 134

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 CodeDeplo
- K. Configure an in-place deployment typ
- L. Specify the Auto Scaling group as the deployment targe
- M. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.
- N. Create an application in CodeDeplo
- O. Configure an in-place deployment typ
- P. Specify the EC2 instances that are launched from the common AMI as the deployment targe
- Q. Update the CodePipeline pipeline to use the CodeDeploy action to deploy the application.

Answer: AD

Explanation:

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

NEW QUESTION 138

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