

AWS-Certified-DevOps-Engineer-Professional Dumps

Amazon AWS Certified DevOps Engineer Professional

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NEW QUESTION 1

A company deploys a web application on Amazon EC2 instances that are behind an Application Load Balancer (ALB). The company stores the application code in an AWS CodeCommit repository. When code is merged to the main branch, an AWS Lambda function invokes an AWS CodeBuild project. The CodeBuild project packages the code, stores the packaged code in AWS CodeArtifact, and invokes AWS Systems Manager Run Command to deploy the packaged code to the EC2 instances.

Previous deployments have resulted in defects, EC2 instances that are not running the latest version of the packaged code, and inconsistencies between instances.

Which combination of actions should a DevOps engineer take to implement a more reliable deployment solution? (Select TWO.)

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

Answer: AC

Explanation:

To implement a more reliable deployment solution, a DevOps engineer should take the following actions:

? Create a pipeline in AWS CodePipeline that uses the CodeCommit repository as a source provider. Configure pipeline stages that run the CodeBuild project in parallel to build and test the application. In the pipeline, pass the CodeBuild project output artifact to an AWS CodeDeploy action. This action will improve the deployment reliability by automating the entire process from code commit to deployment, reducing human errors and inconsistencies. By running the build and test stages in parallel, the pipeline can also speed up the delivery time and provide faster feedback. By using CodeDeploy as the deployment action, the pipeline can leverage the features of CodeDeploy, such as traffic shifting, health checks, rollback, and deployment configuration¹²³

? Create an AWS CodeDeploy application and a deployment group to deploy the packaged code to the EC2 instances. Configure the ALB for the deployment group. This action will improve the deployment reliability by using CodeDeploy to orchestrate the deployment across multiple EC2 instances behind an ALB. CodeDeploy can perform blue/green deployments or in-place deployments with traffic shifting, which can minimize downtime and reduce risks. CodeDeploy can also monitor the health of the instances during and after the deployment, and automatically roll back if any issues are detected. By configuring the ALB for the deployment group, CodeDeploy can register and deregister instances from the load balancer as needed, ensuring that only healthy instances receive traffic⁴⁵

The other options are not correct because they do not improve the deployment reliability or follow best practices. Creating separate pipeline stages that run a CodeBuild project to build and then test the application is not a good option because it will increase the pipeline execution time and delay the feedback loop. Creating individual Lambda functions that use CodeDeploy instead of Systems Manager to run build, test, and deploy actions is not a valid option because it will add unnecessary complexity and cost to the solution. Lambda functions are not designed for long-running tasks such as building or deploying applications. Creating an Amazon S3 bucket and modifying the CodeBuild project to store the packages in the S3 bucket instead of in CodeArtifact is not a necessary option because it will not affect the deployment reliability. CodeArtifact is a secure, scalable, and cost-effective package management service that can store and share software packages for application development⁶⁷

References:

- ? 1: What is AWS CodePipeline? - AWS CodePipeline
- ? 2: Create a pipeline in AWS CodePipeline - AWS CodePipeline
- ? 3: Deploy an application with AWS CodeDeploy - AWS CodePipeline
- ? 4: What is AWS CodeDeploy? - AWS CodeDeploy
- ? 5: Configure an Application Load Balancer for your blue/green deployments - AWS CodeDeploy
- ? 6: What is AWS Lambda? - AWS Lambda
- ? 7: What is AWS CodeArtifact? - AWS CodeArtifact

NEW QUESTION 2

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

What should a DevOps engineer do to meet these requirements?

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

Answer: B

Explanation:

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

NEW QUESTION 3

A DevOps engineer is building an application that uses an AWS Lambda function to query an Amazon Aurora MySQL DB cluster. The Lambda function performs only read queries. Amazon EventBridge events invoke the Lambda function.

As more events invoke the Lambda function each second, the database's latency increases and the database's throughput decreases. The DevOps engineer needs to improve the performance of the application.

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

- A. Use Amazon RDS Proxy to create a proxy
- B. Connect the proxy to the Aurora cluster reader endpoint
- C. Set a maximum connections percentage on the proxy.

- D. Implement database connection pooling inside the Lambda cod
- E. Set a maximum number of connections on the database connection pool.
- F. Implement the database connection opening outside the Lambda event handler code.
- G. Implement the database connection opening and closing inside the Lambda event handler code.
- H. Connect to the proxy endpoint from the Lambda function.
- I. Connect to the Aurora cluster endpoint from the Lambda function.

Answer: ACE

Explanation:

To improve the performance of the application, the DevOps engineer should use Amazon RDS Proxy, implement the database connection opening outside the Lambda event handler code, and connect to the proxy endpoint from the Lambda function. References:

? Amazon RDS Proxy is a fully managed, highly available database proxy for Amazon Relational Database Service (RDS) that makes applications more scalable, more resilient to database failures, and more secure¹. By using Amazon RDS Proxy, the DevOps engineer can reduce the overhead of opening and closing connections to the database, which can improve latency and throughput².

? The DevOps engineer should connect the proxy to the Aurora cluster reader

endpoint, which allows read-only connections to one of the Aurora Replicas in the DB cluster³. This can help balance the load across multiple read replicas and improve performance for read-intensive workloads⁴.

? The DevOps engineer should implement the database connection opening outside the Lambda event handler code, which means using a global variable to store the database connection object⁵. This can enable connection reuse across multiple invocations of the Lambda function, which can reduce latency and improve performance.

? The DevOps engineer should connect to the proxy endpoint from the Lambda function, which is a unique URL that represents the proxy. This can allow the Lambda function to access the database through the proxy, which can provide benefits such as connection pooling, load balancing, failover handling, and enhanced security.

? The other options are incorrect because:

NEW QUESTION 4

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

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

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

Answer: C

Explanation:

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

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

? Configure an event source of AWS Health, a service of EC2, and an event type that indicates instance maintenance.

? Target a newly created AWS Lambda function that registers an automation task to restart the EC2 instance during a maintenance window.

The AWS Lambda function will be triggered by the event from AWS Health. The function will then register an automation task to restart the EC2 instance during the next maintenance window.

NEW QUESTION 5

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

services.

Which solution will meet these requirements?

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

Answer: D

Explanation:

<https://aws.amazon.com/blogs/devops/how-to-test-and-debug-aws-codedeploy-locally-before-you-ship-your-code/#:~:text=You%20can%20test%20application%20code,local%20server%20or%20EC2%20instance.>

NEW QUESTION 6

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

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

Answer: B

Explanation:

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

NEW QUESTION 7

A company uses AWS Key Management Service (AWS KMS) keys and manual key rotation to meet regulatory compliance requirements. The security team wants to be notified when any keys have not been rotated after 90 days. Which solution will accomplish this?

- A. Configure AWS KMS to publish to an Amazon Simple Notification Service (Amazon SNS) topic when keys are more than 90 days old.
- B. Configure an Amazon EventBridge event to launch an AWS Lambda function to call the AWS Trusted Advisor API and publish to an Amazon Simple Notification Service (Amazon SNS) topic.
- C. Develop an AWS Config custom rule that publishes to an Amazon Simple Notification Service (Amazon SNS) topic when keys are more than 90 days old.
- D. Configure AWS Security Hub to publish to an Amazon Simple Notification Service (Amazon SNS) topic when keys are more than 90 days old.

Answer: C

Explanation:

<https://aws.amazon.com/blogs/security/how-to-use-aws-config-to-determine-compliance-of-aws-kms-key-policies-to-your-specifications/>

NEW QUESTION 8

A company has an AWS CodePipeline pipeline that is configured with an Amazon S3 bucket in the eu-west-1 Region. The pipeline deploys an AWS Lambda application to the same Region. The pipeline consists of an AWS CodeBuild project build action and an AWS CloudFormation deploy action. The CodeBuild project uses the `aws cloudformation package` AWS CLI command to build an artifact that contains the Lambda function code's .zip file and the CloudFormation template. The CloudFormation deploy action references the CloudFormation template from the output artifact of the CodeBuild project's build action.

The company wants to also deploy the Lambda application to the us-east-1 Region by using the pipeline in eu-west-1. A DevOps engineer has already updated the CodeBuild project to use the `aws cloudformation package` command to produce an additional output artifact for us-east-1.

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

- A. Modify the CloudFormation template to include a parameter for the Lambda function code's zip file location.
- B. Create a new CloudFormation deploy action for us-east-1 in the pipeline.
- C. Configure the new deploy action to pass in the us-east-1 artifact location as a parameter override.
- D. Create a new CloudFormation deploy action for us-east-1 in the pipeline.
- E. Configure the new deploy action to use the CloudFormation template from the us-east-1 output artifact.
- F. Create an S3 bucket in us-east-1. Configure the S3 bucket policy to allow CodePipeline to have read and write access.
- G. Create an S3 bucket in us-east-1. Configure S3 Cross-Region Replication (CRR) from the S3 bucket in eu-west-1 to the S3 bucket in us-east-1.
- H. Modify the pipeline to include the S3 bucket for us-east-1 as an artifact store.
- I. Create a new CloudFormation deploy action for us-east-1 in the pipeline.
- J. Configure the new deploy action to use the CloudFormation template from the us-east-1 output artifact.

Answer: AB

Explanation:

A. The CloudFormation template should be modified to include a parameter that indicates the location of the .zip file containing the Lambda function's code. This allows the CloudFormation deploy action to use the correct artifact depending on the region. This is critical because Lambda functions need to reference their code.

artifacts from the same region they are being deployed in. B. You would also need to create a new CloudFormation deploy action for the us-east-1 Region within the pipeline. This action should be configured to use the CloudFormation template from the artifact that was specifically created for us-east-1.

NEW QUESTION 9

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 10

A company has an application that runs on a fleet of Amazon EC2 instances. The application requires frequent restarts. The application logs contain error messages when a restart is required. The application logs are published to a log group in Amazon CloudWatch Logs. An Amazon CloudWatch alarm notifies an application engineer through an Amazon Simple Notification Service (Amazon SNS) topic when the logs contain a large number of restart-related error messages. The application engineer manually restarts the application on the instances after the application engineer receives a notification from the SNS topic. A DevOps engineer needs to implement a solution to automate the application restart on the instances without restarting the instances. Which solution will meet these requirements in the MOST operationally efficient manner?

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

Answer: D

Explanation:

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

NEW QUESTION 10

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

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

Answer: C

Explanation:

The correct answer is C. Configuring AWS CloudTrail to send log data events to an Amazon CloudWatch Logs log group and creating a CloudWatch logs metric filter to match failed ConsoleLogin events is the simplest and most efficient way to monitor and alert on failed login attempts. Creating a CloudWatch alarm that is based on the metric filter and configuring an alarm action to send messages to the SNS topic will ensure that the security team is notified when multiple failed login attempts occur. This solution requires the least operational effort compared to the other options. Option A is incorrect because it involves configuring AWS CloudTrail to send log management events instead of log data events. Log management events are used to track changes to CloudTrail configuration, such as creating, updating, or deleting a trail. Log data events are used to track API activity in AWS accounts, such as login attempts. Therefore, option A will not capture the failed ConsoleLogin events.

Option B is incorrect because it involves creating an Amazon Athena query and two Amazon EventBridge rules to monitor and alert on failed login attempts. This is a more complex and costly solution than using CloudWatch logs and alarms. Moreover, option B relies on the query returning a failure, which may not happen if the query is executed successfully but does not find any failed logins.

Option D is incorrect because it involves configuring AWS CloudTrail to send log data events to an Amazon S3 bucket and configuring an Amazon S3 event notification for the s3:ObjectCreated event type. This solution will not work because the s3:ObjectCreated event type does not allow filtering by ConsoleLogin failed events. The event notification will be triggered for any object created in the S3 bucket, regardless of the event type. Therefore, option D will generate a lot of false positives and unnecessary notifications. References:

? AWS CloudTrail Log File Examples

? Creating CloudWatch Alarms for CloudTrail Events: Examples

? Monitoring CloudTrail Log Files with Amazon CloudWatch Logs

NEW QUESTION 11

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

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

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

NEW QUESTION 12

A company uses an organization in AWS Organizations to manage its AWS accounts. The company recently acquired another company that has standalone AWS accounts. The acquiring company's DevOps team needs to consolidate the administration of the AWS accounts for both companies and retain full administrative control of the accounts. The DevOps team also needs to collect and group findings across all the accounts to implement and maintain a security posture.

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

- A. Invite the acquired company's AWS accounts to join the organization
- B. Create an SCP that has full administrative privilege
- C. Attach the SCP to the management account.
- D. Invite the acquired company's AWS accounts to join the organization
- E. Create the OrganizationAccountAccessRole IAM role in the invited account
- F. Grant permission to the management account to assume the role.
- G. Use AWS Security Hub to collect and group findings across all accounts
- H. Use Security Hub to automatically detect new accounts as the accounts are added to the organization.
- I. Use AWS Firewall Manager to collect and group findings across all accounts
- J. Enable all features for the organization
- K. Designate an account in the organization as the delegated administrator account for Firewall Manager.
- L. Use Amazon Inspector to collect and group findings across all accounts
- M. Designate an account in the organization as the delegated administrator account for Amazon Inspector.

Answer: BC

Explanation:

The correct answer is B and C. Option B is correct because inviting the acquired company's AWS accounts to join the organization and creating the OrganizationAccountAccessRole IAM role in the invited accounts allows the management account to assume the role and gain full administrative access to the member accounts. Option C is correct because using AWS Security Hub to collect and group findings across all accounts enables the DevOps team to monitor and improve the security posture of the organization. Security Hub can automatically detect new accounts as the accounts are added to the organization and enable Security Hub for them. Option A is incorrect because creating an SCP that has full administrative privileges and attaching it to the management account does not grant the management account access to the member accounts. SCPs are used to restrict the permissions of the member accounts, not to grant permissions to the management account. Option D is incorrect because using AWS Firewall Manager to collect and group findings across all accounts is not a valid use case for Firewall Manager. Firewall Manager is used to centrally configure and manage firewall rules across the organization, not to collect and group security findings. Option E is incorrect because using Amazon Inspector to collect and group findings across all accounts is not a valid use case for Amazon Inspector. Amazon Inspector is used to assess the security and compliance of applications running on Amazon EC2 instances, not to collect and group security findings across accounts. References:

? Inviting an AWS account to join your organization

? Enabling and disabling AWS Security Hub

? Service control policies

? AWS Firewall Manager

? Amazon Inspector

NEW QUESTION 17

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

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

Answer: BCE

Explanation:

<https://docs.aws.amazon.com/glue/latest/dg/components-overview.html>

NEW QUESTION 21

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

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

Answer: D

Explanation:

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

NEW QUESTION 23

A DevOps engineer used an AWS Cloud Formation custom resource to set up AD Connector. The AWS Lambda function ran and created AD Connector, but Cloud Formation is not transitioning from CREATE_IN_PROGRESS to CREATE_COMPLETE. Which action should the engineer take to resolve this issue?

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

Answer: B

Explanation:

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

NEW QUESTION 27

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

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

Answer: A

Explanation:

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

NEW QUESTION 28

A company has multiple development teams in different business units that work in a shared single AWS account All Amazon EC2 resources that are created in the account must include tags that specify who created the resources. The tagging must occur within the first hour of resource creation. A DevOps engineer needs to add tags to the created resources that Include the user ID that created the resource and the cost center ID The DevOps engineer configures an AWS Lambda function With the cost center mappings to tag the resources. The DevOps engineer also sets up AWS CloudTrail in the AWS account.

An Amazon S3 bucket stores the CloudTrail event logs
Which solution will meet the tagging requirements?

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

Answer: D

Explanation:

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

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

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

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

References:

? S3 event notifications

? Server access logging

? Amazon EventBridge rules

? AWS CloudTrail

NEW QUESTION 29

A company has developed a serverless web application that is hosted on AWS. The application consists of Amazon S3, Amazon API Gateway, several AWS Lambda functions, and an Amazon RDS for MySQL database. The company is using AWS CodeCommit to store the source code. The source code is a combination of AWS Serverless Application Model (AWS SAM) templates and Python code.

A security audit and penetration test reveal that user names and passwords for authentication to the database are hardcoded within CodeCommit repositories. A DevOps engineer must implement a solution to automatically detect and prevent hardcoded secrets.

What is the MOST secure solution that meets these requirements?

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

Answer: B

Explanation:

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

NEW QUESTION 34

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 applicatio
- N. Store a zipped version of the application in Amazon S3. Use that location to deploy new versions of the applicatio
- O. Use Elastic Beanstalk to manage the deployment options.

Answer: D

Explanation:

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

NEW QUESTION 37

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

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

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

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

Answer: B

Explanation:

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

NEW QUESTION 41

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

Answer: A

Explanation:

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

NEW QUESTION 43

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 46

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

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

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

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

Answer: B

Explanation:

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

NEW QUESTION 48

A DevOps engineer manages a large commercial website that runs on Amazon EC2. The website uses Amazon Kinesis Data Streams to collect and process web logs. The DevOps engineer manages the Kinesis consumer application, which also runs on Amazon EC2.

Sudden increases of data cause the Kinesis consumer application to fall behind and the Kinesis data streams drop records before the records can be processed.

The DevOps engineer must implement a solution to improve stream handling.

Which solution meets these requirements with the MOST operational efficiency?

- A. Modify the Kinesis consumer application to store the logs durably in Amazon S3. Use Amazon EMR to process the data directly on Amazon S3 to derive customer insights. Store the results in Amazon S3.
- B. Horizontally scale the Kinesis consumer application by adding more EC2 instances based on the Amazon CloudWatch GetRecords.IteratorAge.Milliseconds metric. Increase the retention period of the Kinesis data streams.
- C. Convert the Kinesis consumer application to run as an AWS Lambda function.
- D. Configure the Kinesis data streams as the event source for the Lambda function to process the data streams.
- E. Increase the number of shards in the Kinesis data streams to increase the overall throughput so that the consumer application processes the data faster.

Answer: B

Explanation:

<https://docs.aws.amazon.com/streams/latest/dev/monitoring-with-cloudwatch.html>

GetRecords.IteratorAge.Milliseconds - The age of the last record in all GetRecords calls made against a Kinesis stream, measured over the specified time period.

Age is the difference between the current time and when the last record of the GetRecords call was written to the stream. The Minimum and Maximum statistics can be used to track the progress of Kinesis consumer applications. A value of zero indicates that the records being read are completely caught up.

NEW QUESTION 50

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

The buildspec.yml file contains the following:

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

The DevOps engineer has noticed that anybody with an AWS account is able to download the artifacts.

What steps should the DevOps engineer take to stop this?

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

Answer: D

Explanation:

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

NEW QUESTION 54

A company is using AWS to run digital workloads. Each application team in the company has its own AWS account for application hosting. The accounts are consolidated in an organization in AWS Organizations.

The company wants to enforce security standards across the entire organization. To avoid noncompliance because of security misconfiguration, the company has enforced the use of AWS CloudFormation. A production support team can modify resources in the production environment by using the AWS Management Console to troubleshoot and resolve application-related issues.

A DevOps engineer must implement a solution to identify in near real time any AWS service misconfiguration that results in noncompliance. The solution must automatically remediate the issue within 15 minutes of identification. The solution also must track noncompliant resources and events in a centralized dashboard with accurate timestamps.

Which solution will meet these requirements with the LEAST development overhead?

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

Answer: C

Explanation:

The best solution is to use AWS Config and AWS Security Hub to identify and remediate noncompliant resources across multiple AWS accounts. AWS Config enables continuous monitoring of the configuration of AWS resources and evaluates them against desired configurations. AWS Config can also automatically remediate noncompliant resources by using conformance packs, which are a collection of AWS Config rules and remediation actions that can be deployed as a single entity. AWS Security Hub provides a comprehensive view of the security posture of AWS accounts and resources. AWS Security Hub can aggregate and normalize the findings from AWS Config and other AWS services, as well as from partner solutions. AWS Security Hub can also be used to create a dashboard for tracking noncompliant resources and events in a centralized location.

The other options are not optimal because they either require more development overhead, do not provide near real time detection and remediation, or do not provide a centralized dashboard for tracking.

Option A is not optimal because CloudFormation drift detection is not a near real time solution. Drift detection has to be manually initiated on each stack or resource, or scheduled using a cron expression. Drift detection also does not provide remediation

actions, so a custom Lambda function has to be developed and invoked. CloudWatch Logs and dashboard can be used for tracking, but they do not provide a comprehensive view of the security posture of the AWS accounts and resources.

Option B is not optimal because CloudTrail logs analysis using Athena is not a near real time solution. Athena queries have to be manually run or scheduled using a cron expression. Athena also does not provide remediation actions, so a custom Lambda function has to be developed and invoked. Step Functions can be used to orchestrate the query and remediation workflow, but it adds more complexity and cost. QuickSight dashboard can be used for tracking, but it does not provide a comprehensive view of the security posture of the AWS accounts and resources.

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

? AWS Config conformance packs

? Introducing AWS Config conformance packs

? Managing conformance packs across all accounts in your organization

NEW QUESTION 56

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 AWS
- B. Configure this instance as a task
- 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 use
- 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
- M. Then create an Amazon CloudWatch Logs subscription filter for Kinesis Data Firehose.

Answer: BDF

Explanation:

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

NEW QUESTION 57

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 instance
- 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 AWS Region
- D. Create an RDS read replica in the new Region and configure the new stack to point to the local RDS DB instance
- 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 in a different AWS Region
- G. In the event of an outage copy and restore the latest RDS snapshot from the primary
- H. Create an RDS read replica in the new Region and configure the new environment to point to the local RDS DB instance
- I. Launch a replica environment of everything except Amazon RDS in a different AWS Region
- J. Create an RDS read replica in the new Region and configure the new environment to point to the local RDS DB instance
- K. Add the new stack to the Route 53 record set by using a health check to configure a failover routing policy
- L. In the event of an outage promote the read replica to primary.

Answer: D

NEW QUESTION 62

A company builds an application that uses an Application Load Balancer in front of Amazon EC2 instances that are in an Auto Scaling group. The application is stateless. The Auto Scaling group uses a custom AMI that is fully prebuilt. The EC2 instances do not have a custom bootstrapping process.

The AMI that the Auto Scaling group uses was recently deleted. The Auto Scaling group's scaling activities show failures because the AMI ID does not exist.

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

- A. Create a new launch template that uses the new AMI.
- B. Update the Auto Scaling group to use the new launch template.
- C. Reduce the Auto Scaling group's desired capacity to 0.
- D. Increase the Auto Scaling group's desired capacity by 1.
- E. Create a new AMI from a running EC2 instance in the Auto Scaling group.
- F. Create a new AMI by copying the most recent public AMI of the operating system that the EC2 instances use.

Answer: ABF

Explanation:

To restore the functionality of the Auto Scaling group after the AMI was deleted, the DevOps engineer needs to create a new AMI and update the Auto Scaling group to use it. The DevOps engineer can create a new AMI by copying the most recent public AMI of the operating system that the EC2 instances use. This will ensure that the new AMI has the same operating system as the custom AMI that was deleted. The DevOps engineer can then create a new launch template that uses the new AMI and update the Auto Scaling group to use the new launch template. This will allow the Auto Scaling group to launch new instances with the new AMI.

NEW QUESTION 63

A company is divided into teams. Each team has an AWS account and all the accounts are in an organization in AWS Organizations. Each team must retain full administrative rights to its AWS account. Each team also must be allowed to access only AWS services that the company approves for use. AWS services must gain approval through a request and approval process.

How should a DevOps engineer configure the accounts to meet these requirements?

- A. Use AWS CloudFormation StackSets to provision IAM policies in each account to deny access to restricted AWS services
- B. In each account configure AWS Config rules that ensure that the policies are attached to IAM principals in the account.
- C. Use AWS Control Tower to provision the accounts into OUs within the organization. Configure AWS Control Tower to enable AWS IAM Identity Center (AWS Single Sign-On). Configure IAM Identity Center to provide administrative access. Include deny policies on user roles for restricted AWS services.
- D. Place all the accounts under a new top-level OU within the organization. Create an SCP that denies access to restricted AWS services. Attach the SCP to the OU.
- E. Create an SCP that allows access to only approved AWS services
- F. Attach the SCP to the root OU of the organization
- G. Remove the FullAWSAccess SCP from the root OU of the organization.

Answer: C

Explanation:

<https://docs.aws.amazon.com/vpc/latest/userguide/managed-prefix-lists.html> A managed prefix list is a set of one or more CIDR blocks. You can use prefix lists to make it easier to configure and maintain your security groups and route tables. <https://docs.aws.amazon.com/vpc/latest/userguide/sharing-managed-prefix-lists.html> With AWS Resource Access Manager (AWS RAM), the owner of a prefix list can share a prefix list with the following: Specific AWS accounts inside or outside of its organization in AWS Organizations An organizational unit inside its organization in AWS Organizations An entire organization in AWS Organizations

NEW QUESTION 66

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

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

Which solution will meet these requirements?

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

Answer: B

Explanation:

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

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

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

NEW QUESTION 70

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 extension 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 74

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

the stack was in the UPDATE_ROLLBACK_FAILED state.

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

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

Answer: CD

Explanation:

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

NEW QUESTION 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 77

A developer is maintaining a fleet of 50 Amazon EC2 Linux servers. The servers are part of an Amazon EC2 Auto Scaling group, and also use Elastic Load Balancing for load balancing.

Occasionally, some application servers are being terminated after failing ELB HTTP health checks. The developer would like to perform a root cause analysis on the issue, but before being able to access application logs, the server is terminated.

How can log collection be automated?

- A. Use Auto Scaling lifecycle hooks to put instances in a Pending:Wait state
- B. Create an Amazon CloudWatch alarm for EC2 Instance Terminate Successful and trigger an AWS Lambda function that invokes an SSM Run Command script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- C. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state
- D. Create an AWS Config rule for EC2 Instance-terminate Lifecycle Action and trigger a step function that invokes a script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- E. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state
- F. Create an Amazon CloudWatch subscription filter for EC2 Instance Terminate Successful and trigger a CloudWatch agent that invokes a script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.
- G. Use Auto Scaling lifecycle hooks to put instances in a Terminating:Wait state
- H. Create an Amazon EventBridge rule for EC2 Instance-terminate Lifecycle Action and trigger an AWS Lambda function that invokes an SSM Run Command script to collect logs, push them to Amazon S3, and complete the lifecycle action once logs are collected.

Answer: D

Explanation:

<https://blog.fourninecloud.com/auto-scaling-lifecycle-hooks-to-export-server-logs-when-instance-terminating-58e06d7c0d6a>

NEW QUESTION 81

A company uses AWS Secrets Manager to store a set of sensitive API keys that an AWS Lambda function uses. When the Lambda function is invoked, the

Lambda function retrieves the API keys and makes an API call to an external service. The Secrets Manager secret is encrypted with the default AWS Key Management Service (AWS KMS) key.

A DevOps engineer needs to update the infrastructure to ensure that only the Lambda function's execution role can access the values in Secrets Manager. The solution must apply the principle of least privilege.

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

- A. Update the default KMS key for Secrets Manager to allow only the Lambda function's execution role to decrypt.
- B. Create a KMS customer managed key that trusts Secrets Manager and allows the Lambda function's execution role to decrypt
- C. Update Secrets Manager to use the new customer managed key.
- D. Create a KMS customer managed key that trusts Secrets Manager and allows the account's :root principal to decrypt
- E. Update Secrets Manager to use the new customer managed key.
- F. Ensure that the Lambda function's execution role has the KMS permissions scoped on the resource level
- G. Configure the permissions so that the KMS key can encrypt the Secrets Manager secret.
- H. Remove all KMS permissions from the Lambda function's execution role.

Answer: BD

Explanation:

The requirement is to update the infrastructure to ensure that only the Lambda function's execution role can access the values in Secrets Manager. The solution must apply the principle of least privilege, which means granting the minimum permissions necessary to perform a task.

To do this, the DevOps engineer needs to use the following steps:

? Create a KMS customer managed key that trusts Secrets Manager and allows the Lambda function's execution role to decrypt. A customer managed key is a symmetric encryption key that is fully managed by the customer. The customer can define the key policy, which specifies who can use and manage the key. By creating a customer managed key, the DevOps engineer can restrict the decryption permission to only the Lambda function's execution role, and prevent other principals from accessing the secret values. The customer managed key also needs to trust Secrets Manager, which means allowing Secrets Manager to use the key to encrypt and decrypt secrets on behalf of the customer.

? Update Secrets Manager to use the new customer managed key. Secrets Manager allows customers to choose which KMS key to use for encrypting each secret. By default, Secrets Manager uses the default KMS key for Secrets Manager, which is a service-managed key that is shared by all customers in the same AWS Region. By updating Secrets Manager to use the new customer managed key, the DevOps engineer can ensure that only the Lambda function's execution role can decrypt the secret values using that key.

? Ensure that the Lambda function's execution role has the KMS permissions scoped on the resource level. The Lambda function's execution role is an IAM role that grants permissions to the Lambda function to access AWS services and resources. The role needs to have KMS permissions to use the customer managed key for decryption. However, to apply the principle of least privilege, the role should have the permissions scoped on the resource level, which means specifying the ARN of the customer managed key as a condition in the IAM policy statement. This way, the role can only use that specific key and not any other KMS keys in the account.

NEW QUESTION 84

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 85

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 operation
- I. Add an ECR repository policy that allows the IAM service role to have access.

Answer: A

Explanation:

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

Update the docker login command to use the authentication token to access the ECR repository.

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

NEW QUESTION 88

A company wants to use a grid system for a proprietary enterprise m-memory data store on top of AWS. This system can run in multiple server nodes in any Linux-based distribution. The system must be able to reconfigure the entire cluster every time a node is added or removed. When adding or removing nodes an /etc./cluster/nodes config file must be updated listing the IP addresses of the current node members of that cluster.

The company wants to automate the task of adding new nodes to a cluster. What can a DevOps engineer do to meet these requirements?

- A. Use AWS OpsWorks Stacks to layer the server nodes of that cluste
- B. Create a Chef recipe that populates the content of the 'etc./cluster/nodes config file and restarts the service by using the current members of the laye
- C. Assign that recipe to the Configure lifecycle event.
- D. Put the file nodes config in version contro
- E. Create an AWS CodeDeploy deployment configuration and deployment group based on an Amazon EC2 tag value for thecluster node
- F. When adding a new node to the cluster update the file with all tagged instances and make a commit in version contro
- G. Deploy the new file and restart the services.
- H. Create an Amazon S3 bucket and upload a version of the /etc./cluster/nodes config file Create a crontab script that will poll for that S3 file and download it frequentl
- I. Use a process manager such as Monit or system, to restart the cluster services when it detects that the new file was modifie
- J. When adding a node to the cluster edit the file's most recent members Upload the new file to the S3 bucket.
- K. Create a user data script that lists all members of the current security group of the cluster and automatically updates the /etc/cluster/. nodes confi
- L. Tile whenever a new instance is added to the cluster.

Answer: A

Explanation:

You can run custom recipes manually, but the best approach is usually to have AWS OpsWorks Stacks run them automatically. Every layer has a set of built-in recipes assigned each of five lifecycle events—Setup, Configure, Deploy, Undeploy, and Shutdown. Each time an event occurs for an instance, AWS OpsWorks Stacks runs the associated recipes for each of the instance's layers, which handle the corresponding tasks. For example, when an instance finishes booting, AWS OpsWorks Stacks triggers a Setup event. This event runs the associated layer's Setup recipes, which typically handle tasks such as installing and configuring packages

NEW QUESTION 89

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 93

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 96

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

Which solution will meet these requirements'?

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

Answer: B

Explanation:

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

NEW QUESTION 97

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

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

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

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

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

Answer: AE

Explanation:

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

References:

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

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

NEW QUESTION 101

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

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

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

- A. Use Fn::ImportValue intrinsic functions in the Resources section of the template to retrieve Virtual Private Cloud (VPC) and subnet value
- B. Use CloudFormation StackSets for the development environments, using the Count input parameter to indicate the number of environments 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 and ExecuteChangeSet commands to update existing development environments.
- N. Use the CreateChangeSet and ExecuteChangeSet commands to update existing development environments.

Answer: C

Explanation:

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

NEW QUESTION 102

A company hosts a security auditing application in an AWS account. The auditing application uses an IAM role to access other AWS accounts. All the accounts are in the same organization in AWS Organizations.

A recent security audit revealed that users in the audited AWS accounts could modify or delete the auditing application's IAM role. The company needs to prevent any modification to the auditing application's IAM role by any entity other than a trusted administrator IAM role.

Which solution will meet these requirements?

- A. Create an SCP that includes a Deny statement for changes to the auditing application's IAM role
- B. Include a condition that allows the trusted administrator IAM role to make change
- C. Attach the SCP to the root of the organization.
- D. Create an SCP that includes an Allow statement for changes to the auditing application's IAM role by the trusted administrator IAM role
- E. Include a Deny statement for changes by all other IAM principal
- F. Attach the SCP to the IAM service in each AWS account where the auditing application has an IAM role.
- G. Create an IAM permissions boundary that includes a Deny statement for changes to the auditing application's IAM role
- H. Include a condition that allows the trusted administrator IAM role to make change
- I. Attach the permissions boundary to the audited AWS accounts.
- J. Create an IAM permissions boundary that includes a Deny statement for changes to the auditing application's IAM role
- K. Include a condition that allows the trusted administrator IAM role to make change
- L. Attach the permissions boundary to the auditing application's IAM role in the AWS accounts.

Answer: A

Explanation:

https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps.html?icmpid=docs_orgs_console
SCPs (Service Control Policies) are the best way to restrict permissions at the organizational level, which in this case would be used to restrict modifications to the IAM role used by the auditing application, while still allowing trusted administrators to make changes to it. Options C and D are not as effective because IAM permission boundaries are applied to IAM entities (users, groups, and roles), not the account itself, and must be applied to all IAM entities in the account.

NEW QUESTION 107

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 deployment stage configuration will meet these requirements?

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

Answer: D

Explanation:

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

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

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

- 1. Use AWS CodeBuild to add sample event payloads for testing to the Lambda functions.
- 2. Publish a new version of the functions, and include Amazon CloudWatch alarms.
- 3. Update the production alias to point to the new version.
- 4. 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 110

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 113

A company wants to deploy a workload on several hundred Amazon EC2 instances. The company will provision the EC2 instances in an Auto Scaling group by using a launch template.

The workload will pull files from an Amazon S3 bucket, process the data, and put the results into a different S3 bucket. The EC2 instances must have least-privilege permissions and must use temporary security credentials.

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

- A. Create an IAM role that has the appropriate permissions for S3 bucket.
- B. Add the IAM role to an instance profile.
- C. Update the launch template to include the IAM instance profile.
- D. Create an IAM user that has the appropriate permissions for Amazon S3. Generate a secret key and token.
- E. Create a trust anchor and profile.
- F. Attach the IAM role to the profile.
- G. Update the launch template.
- H. Modify the user data to use the new secret key and token.

Answer: AB

Explanation:

To meet the requirements of deploying a workload on several hundred EC2 instances with least-privilege permissions and temporary security credentials, the company should use an IAM role and an instance profile. An IAM role is a way to grant permissions to an entity that you trust, such as an EC2 instance. An instance profile is a container for an IAM role that you can use to pass role information to an EC2 instance when the instance starts. By using an IAM role and an instance profile, the EC2 instances can automatically receive temporary security credentials from the AWS Security Token Service (STS) and use them to access the S3 buckets. This way, the company does not need to manage or rotate any long-term credentials, such as IAM users or access keys.

To use an IAM role and an instance profile, the company should create an IAM role that has the appropriate permissions for S3 buckets. The permissions should allow the EC2 instances to read from the source S3 bucket and write to the destination S3 bucket. The company should also create a trust policy for the IAM role that specifies that EC2 is allowed to assume the role. Then, the company should add the IAM role to an instance profile. An instance profile can have only one IAM role, so the company does not need to create multiple roles or profiles for this scenario.

Next, the company should update the launch template to include the IAM instance profile. A launch template is a way to save launch parameters for EC2 instances, such as the instance type, security group, user data, and IAM instance profile. By using a launch template, the company can ensure that all EC2 instances in the Auto Scaling group have consistent configuration and permissions. The company should specify the name or ARN of the IAM instance profile in the launch template. This way, when the Auto Scaling group launches new EC2 instances based on the launch template, they will automatically receive the IAM role and its permissions through the instance profile.

The other options are not correct because they do not meet the requirements or follow best practices. Creating an IAM user and generating a secret key and token is not a good option because it involves managing long-term credentials that need to be rotated regularly. Moreover, embedding credentials in user data is not secure because user data is visible to anyone who can describe the EC2 instance. Creating a trust anchor and profile is not a valid option because trust anchors are used for certificate-based authentication, not for IAM roles or instance profiles. Modifying user data to use a new secret key and token is also not a good option because it requires updating user data every time the credentials change, which is not scalable or efficient.

References:

- ? 1: AWS Certified DevOps Engineer - Professional Certification | AWS Certification | AWS
- ? 2: DevOps Resources - Amazon Web Services (AWS)
- ? 3: Exam Readiness: AWS Certified DevOps Engineer - Professional
- ? : IAM Roles for Amazon EC2 - AWS Identity and Access Management
- ? : Working with Instance Profiles - AWS Identity and Access Management
- ? : Launching an Instance Using a Launch Template - Amazon Elastic Compute Cloud
- ? : Temporary Security Credentials - AWS Identity and Access Management

NEW QUESTION 118

A company has its AWS accounts in an organization in AWS Organizations. AWS Config is manually configured in each AWS account. The company needs to implement a solution to centrally configure AWS Config for all accounts in the organization. The solution also must record resource changes to a central account. Which combination of actions should a DevOps engineer perform to meet these requirements? (Choose two.)

- A. Configure a delegated administrator account for AWS Config
- B. Enable trusted access for AWS Config in the organization.
- C. Configure a delegated administrator account for AWS Config
- D. Create a service-linked role for AWS Config in the organization's management account.
- E. Create an AWS CloudFormation template to create an AWS Config aggregator
- F. Configure a CloudFormation stack set to deploy the template to all accounts in the organization.
- G. Create an AWS Config organization aggregator in the organization's management account
- H. Configure data collection from all AWS accounts in the organization and from all AWS Regions.
- I. Create an AWS Config organization aggregator in the delegated administrator account
- J. Configure data collection from all AWS accounts in the organization and from all AWS Regions.

Answer: AE

Explanation:

<https://aws.amazon.com/blogs/mt/org-aggregator-delegated-admin/> <https://docs.aws.amazon.com/organizations/latest/userguide/services-that-can-integrate-config.html>

NEW QUESTION 119

A company that runs many workloads on AWS has an Amazon EBS spend that has increased over time. The DevOps team notices there are many unattached EBS volumes. Although there are workloads where volumes are detached, volumes over 14 days old are stale and no longer needed. A DevOps engineer has been tasked with creating automation that deletes unattached EBS volumes that have been unattached for 14 days. Which solution will accomplish this?

- A. Configure the AWS Config ec2-volume-inuse-check managed rule with a configuration changes trigger type and an Amazon EC2 volume resource target
- B. Create a new Amazon CloudWatch Events rule scheduled to execute an AWS Lambda function in 14 days to delete the specified EBS volume.
- C. Use Amazon EC2 and Amazon Data Lifecycle Manager to configure a volume lifecycle policy
- D. Set the interval period for unattached EBS volumes to 14 days and set the retention rule to delete
- E. Set the policy target volumes as *.
- F. Create an Amazon CloudWatch Events rule to execute an AWS Lambda function daily
- G. The Lambda function should find unattached EBS volumes and tag them with the current date, and delete unattached volumes that have tags with dates that are more than 14 days old.
- H. Use AWS Trusted Advisor to detect EBS volumes that have been detached for more than 14 days
- I. Execute an AWS Lambda function that creates a snapshot and then deletes the EBS volume.

Answer: C

Explanation:

The requirement is to create automation that deletes unattached EBS volumes that have been unattached for 14 days. To do this, the DevOps engineer needs to use the following steps:

? Create an Amazon CloudWatch Events rule to execute an AWS Lambda function

daily. CloudWatch Events is a service that enables event-driven architectures by delivering events from various sources to targets. Lambda is a service that lets you

run code without provisioning or managing servers. By creating a CloudWatch Events rule that executes a Lambda function daily, the DevOps engineer can schedule a recurring task to check and delete unattached EBS volumes.

? The Lambda function should find unattached EBS volumes and tag them with the

current date, and delete unattached volumes that have tags with dates that are more than 14 days old. The Lambda function can use the EC2 API to list and filter unattached EBS volumes based on their state and tags. The function can then tag each unattached volume with the current date using the create-tags command. The function can also compare the tag value with the current date and delete any unattached volume that has been tagged more than 14 days ago using the delete-volume command.

NEW QUESTION 123

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

Answer: BD

Explanation:

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

NEW QUESTION 127

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 130

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

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

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

Answer: C

Explanation:

EC2 instances running in private subnets of a VPC can now have controlled access to S3 buckets, objects, and API functions that are in the same region as the VPC. You can use an S3 bucket policy to indicate which VPCs and which VPC Endpoints have access to your S3 buckets 1-

<https://aws.amazon.com/pt/blogs/aws/new-vpc-endpoint-for-amazon-s3/>

NEW QUESTION 133

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 134

A company hosts applications in its AWS account. Each application logs to an individual Amazon CloudWatch log group. The company's CloudWatch costs for ingestion are increasing.

A DevOps engineer needs to identify which applications are the source of the increased logging costs.

Which solution will meet these requirements?

- A. Use CloudWatch metrics to create a custom expression that identifies the CloudWatch log groups that have the most data being written to them.
- B. Use CloudWatch Logs Insights to create a set of queries for the application log groups to identify the number of logs written for a period of time.
- C. Use AWS Cost Explorer to generate a cost report that details the cost for CloudWatch usage.
- D. Use AWS CloudTrail to filter for CreateLogStream events for each application.

Answer: C

Explanation:

The correct answer is C.

A comprehensive and detailed explanation is:

? Option A is incorrect because using CloudWatch metrics to create a custom expression that identifies the CloudWatch log groups that have the most data being written to them is not a valid solution. CloudWatch metrics do not provide information about the size or volume of data being ingested by CloudWatch logs.

CloudWatch metrics only provide information about the number of events, bytes, and errors that occur within a log group or stream. Moreover, creating a custom expression with CloudWatch metrics would require using the search_web tool, which is not necessary for this use case.

? Option B is incorrect because using CloudWatch Logs Insights to create a set of queries for the application log groups to identify the number of logs written for a period of time is not a valid solution. CloudWatch Logs Insights can help analyze and filter log events based on patterns and expressions, but it does not provide information about the cost or billing of CloudWatch logs. CloudWatch Logs Insights also charges based on the amount of data scanned by each query, which could increase the logging costs further.

? Option C is correct because using AWS Cost Explorer to generate a cost report that details the cost for CloudWatch usage is a valid solution. AWS Cost Explorer is a tool that helps visualize, understand, and manage AWS costs and usage over time. AWS Cost Explorer can generate custom reports that show the breakdown of costs by service, region, account, tag, or any other dimension. AWS Cost Explorer can also filter and group costs by usage type, which can help identify the specific CloudWatch log groups that are the source of the increased logging costs.

? Option D is incorrect because using AWS CloudTrail to filter for CreateLogStream events for each application is not a valid solution. AWS CloudTrail is a service that records API calls and account activity for AWS services, including CloudWatch logs. However, AWS CloudTrail does not provide information about the cost or billing of CloudWatch logs. Filtering for CreateLogStream events would only show when a new log stream was created within a log group, but not how much data was ingested or stored by that log stream.

References:

? CloudWatch Metrics

? CloudWatch Logs Insights

? AWS Cost Explorer

? AWS CloudTrail

NEW QUESTION 139

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